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The Development
of the
Proto-Indo-European
Laryngeals
in Greek

Mouton

**THE DEVELOPMENT OF THE PROTO-INDO-EUROPEAN
LARYNGEALS IN GREEK**

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by

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LEYDEN UNIVERSITY



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To my Mother

PREFACE

The present book is my Leyden doctoral dissertation. At its various stages of completion the manuscript was read by Professor F. B. J. Kuiper, to whom the book owes much. The task of translating the text from Dutch was entrusted to Mr. T. S. Preston. Work on the book was made possible by a scholarship of the Dutch Ministry of Education and Sciences, which also paid the costs of the translation. I am indebted to Professor C. H. van Schooneveld for his permission to publish this study in the series *Janua Linguarum*. Drs. J. P. Gumbert was so kind as to read the proofs and to assist in preparing the indexes. Mouton & Co printed the text with their usual care.

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R. S. P. BEEKES

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Proceedings Cambr. Coll. Myc. Stud. = *Proceedings of the Cambridge Colloquium on Mycenaean studies*, ed. L. R. Palmer-J. Chadwick (Cambridge, 1966).
 Solta, *Stellung* = G. R. Solta, *Die Stellung des Armenischen im Kreise der indogermanischen Sprachen* (Wien, 1960).
 Strunk, *Nasalpr.* = K. Strunk, *Nasalpräsentien und Aoriste* (Wiesbaden, 1967).

ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS

a. Modern literature

For the abbreviations of books and journals see the bibliography.

b. Languages

The following abbreviations have been used for the names of the languages:

Alb.	Albanian	MHG	Middle High German
Alem.	Allemannic	Mod.	Modern
Arm.	Armenian	Norw.	Norwegian
Av.	Avestan	NPers.	New Persian
Balt.	Baltic, Balto-	O	Old
Bret.	Breton	OBret.	Old Breton
Brit.	Britannic	OCS	Old Church Slavonic
Celt.	Celtic	OE	Old English
Corn.	Cornish	OHG	Old High German
Etr.	Etruscan	OIcel.	Old Icelandic
Gaul.	Gaulish	OIr.	Old Irish
GAv.	Gāthā-Avestan	ON	Old Norse
Germ.	Germanic	OP	Old Persian
Goth.	Gothic	OPr.	Old Prussian
Gr.	Greek	OS	Old Saxon
Hitt.	Hittite	Osc.	Oscan
IE	Indo-European	Oss.	Ossetic
Ill.	Illyrian	Phr(yg).	Phrygian
Ind.	Indian	PIE	Proto-Indo-European
Ind.-Ir.	Indo-Iranian	Russ.	Russian
Ir.	Iranian	Serb.	Serbian
Ital.	Italic	Skt.	Sanskrit
L.	Late	Sogd.	Sogdian
Lat.	Latin	Swed.	Swedish
Latv.	Latvian	Thrac.	Thracian
LAv.	Late Avestan	Toch. ¹	Tocharian
Lith.	Lithuanian	Umbr.	Umbrian
Luw.	Luwian	Ved.	Vedic
Lyc.	Lycian	Ven.	Venetic
Lyd.	Lydian	W.	Welsh
M	Middle		

¹ The letters A and B are used to distinguish between the two dialects.

c. *Greek dialects*

The abbreviations for the Greek dialects are those of Buck, *Gr. Diall.*, p. 2.

d. *Classical authors*

For the Greek authors the abbreviations of Liddell and Scott have been used. (They are therefore the same as those of Frisk, except that the latter uses German spelling.)

SYMBOLS

*	indicates reconstructed forms
>	becomes, changes into
<	(has) developed from
	indicates in words the syllable boundary, in verses the end of the verse
~	in citing Homer: nearly identical verses
<i>V</i>	any vowel (<i>V̄</i> long, <i>V̆</i> short vowel)
<i>R</i>	any sonant
<i>C</i>	any consonant
<i>T</i>	any occlusive
<i>H</i>	any laryngeal
<i>h</i>	laryngeal ² of which the "colour" is not known
<i>h</i> ₁ <i>h</i> ₂ <i>h</i> ₃	the <i>e</i> -, <i>a</i> - and <i>o</i> -colouring laryngeal respectively.

² There are many symbols used to designate the laryngeals; see Introduction, p. 2. The use of capitals in the middle of a word is annoying to the reader. Symbols like ' ' ? x γ have the disadvantage that their meaning is not evident. The same applies to the figures, but these have meanwhile become generally known. The use of *ə/ɛ* is confusing, since this symbol after all serves to indicate a vowel. I am therefore following Kuiper in the use of *h*; see his views on this, *Notes*, p. 3 n. 1.

INTRODUCTION

Ich finde es sehr erheiternd, wenn Whatmough in allem Ernste Pokorny den Vorwurf macht, dass er in der Aufzeichnung der idg. Wurzeln nicht die ... Laryngale angewendet habe!

V. Pisani, *Allg. u. vgl. Sprachwiss.*, 1953, p. 47

INTRODUCTION

οὔτοι ἀπ' ἀρχῆς πάντα θεοὶ θνητοῖς παρέδειξαν,
ἀλλὰ χρόνῳ ζητοῦντες ἐφευρίσκουσιν ἄμεινον.

XENOPHANES, D. B 18

The writer's task is to ... write when there is something you
know; and not before; and not too damned much after.

ERNEST HEMINGWAY

A. GENERAL

The laryngeal theory is not of recent date. In fact it is nearly ninety years ago now that it was formulated by Ferdinand de Saussure in his *Mémoire sur le système primitif des voyelles dans les langues indo-européennes*, in 1878.¹ That was at a time of discoveries that were of fundamental importance to comparative Indo-European linguistics. It was then that the “Ausnahmslosigkeit der Lautgesetze” was found and defined.² In the same year (1876) Osthoff's discovery of the liquida sonans³ and that of the nasalis sonans by Brugmann⁴ were published.⁵ The last two discoveries gave an entirely new understanding of the phoneme system of the proto-language, especially of the vowel system. At this stage De Saussure put forward his view, in which an essential place was occupied by the “coefficients sonantiques” which he postulated and which since Möller have been called laryngeals. However, De Saussure's system was outstripped by that of Brugmann and others, codified in the *Grundriss* (1886). The influence exerted by this work in the German-speaking area in particular was and still is so great that as recently as 1965 it could be said of someone that he used it “almost as god-given revelation”.⁶

It is understandable that the theory found little acceptance in the first years of its existence, since the idea was based largely on a schematic analysis for which no concrete facts could be adduced as arguments. But it may be considered surprising

¹ Although the title page has the date 1879, it was published in 1878, as the author remarks in the foreword to the new edition in 1887.

² Leskien, *Declination im Slavischlitauschen und Germanischen* (1876), Einl., p. xxviii; Osthoff-Brugmann, *Morphologische Untersuchungen* 1 (1878) xiii.

³ *Paul und Braunes Beiträge*, 3 (1876), 1-89, in particular p. 52f.

⁴ *Studien zur Griech. u. Lat. Gramm.*, hrsg. von G. Curtius, 9 (1876), 285-338.

⁵ These two had incidentally already been found by De Saussure in 1872-5, when he was still at school. (For what he says about this see *Cahiers Ferd. Sauss.* 17 (1960) 23f.)

⁶ Polomé, with reference to Kronasser, *Evidence*, p. 36.

that today, after so many years of research, the theory is definitely not yet universally accepted — or universally rejected. The reason seems in part to be an emotional question. Anyone brought up with Brugmann's system is confronted with a group of sounds whose phonetic value can be indicated only very vaguely, which had different functions in the proto-language, which passed through many developments in the individual languages and which are reproduced in the literature by a variety of not very attractive signs (\mathfrak{a}_{1-4} \mathfrak{H}_{1-4} \mathfrak{U} \mathfrak{A} \mathfrak{E} \mathfrak{O} \mathfrak{A}^w \mathfrak{H}^v \mathfrak{X} \mathfrak{Z} $\mathfrak{\Omega}$ $\mathfrak{'}$ $\mathfrak{'}^2$ \mathfrak{P} \mathfrak{x} \mathfrak{y} \mathfrak{h} \mathfrak{h}_{1-3}). The reconstructed forms, which not infrequently contain two or more laryngeals, assume a deterring appearance ($*\mathfrak{h}_3\mathfrak{bhr}\mathfrak{éuhs}$, $*\mathfrak{pleh}_1\mathfrak{dh}\mathfrak{ueh}_1\mathfrak{s}$, $*\mathfrak{hih}\mathfrak{hgh}$ -, $*\mathfrak{h}_3\mathfrak{meh}_3\mathfrak{moh}_3\mathfrak{h}_2\mathfrak{e}$), which renders them unpronounceable for most Europeans and which, compared with the familiar picture, seems very un-Indo-European. The theory is based on an "algebraic-structural"⁷ analysis, which daunts many and seems too abstract, too remote from the concrete facts. This feeling is strikingly expressed by Vendryes' words: "le désastre est moins grand qu'une première impression ne ferait croire."⁸ Partly as a result of this — more rational arguments will be stated below — the parties adopted sharply opposed positions and a sensible discussion between adherents and opponents never really came about. In their enthusiasm some proponents certainly went much too far. This upset confidence in the theory and the resultant general scepticism also discredited what was reliable. Criticism thus became so violent that even adherents began to doubt the truth of many explanations. It is highly regrettable that Kuryłowicz — partly through his increasing interest in structural problems — renounced many of his brilliant observations.⁹ In this way, however, the theory lost so much of its content that the critics could in turn retort that it makes little difference whether \bar{a} or eh_2 is assumed for the proto-language if this does not have the slightest consequences for the explanation of the historical forms. For instance, Frisk says in the preface to the first part of his dictionary (p. vi): "Für die griechische Etymologie fällt sowieso die Laryngaltheorie, sie mag prinzipiell noch so wichtig sein, nicht schwer ins Gewicht. Die offenbare genetische Identität von ἄγω, lat. *ago*, aind. *ájati* usw. wird nicht greifbarer, wenn man als gemeinsamen Ursprung eine 'Wurzel' $\mathfrak{a}_2\mathfrak{eg}$ -ansetzt". And so on. This statement of the case testifies to a lack of understanding of the laryngeal theory and may even be called unscientific. If the root in the proto-language had the form $\mathfrak{a}_2\mathfrak{eg}$ -, it must be stated in that form.¹⁰ It may or

⁷ Polomé, *ibid.*, p. 10, n. 8.

⁸ *BSL*, 37 (1936), 34f; in the first instance this is directed towards Benveniste's *Origines*.

⁹ See for instance *AiGr. Nachtr.*, p. 81, 28.

¹⁰ One can of course proceed from the view that the forms reconstructed for PIE need not be stated in an etymological dictionary of Greek. However, this ignores the fact that these dictionaries are used in the first place by Indo-Europeanists. Of course Frisk is right when he says (p. v): "Es ist kein indogermanisches Wörterbuch nach griechischen Stichwörtern." But the Greek material should be pursued as far as possible and this research only ends (in the case of inherited words) at the basic language. For the connection with the other languages a reconstruction of the forms of the proto-language is often necessary. If this is not done, much remains unclear to the majority of readers. Insofar as the cognate forms of the other languages do not contribute to the explanation of the Greek words, it may of course suffice to refer to the lemmata in the etymological dictionaries of these languages. Incidentally, it must be said that Frisk's treatment largely satisfies these require-

may not be clear whether this finding has further consequences for the interpretation of Greek or another language, but in an etymological dictionary reference should be made to this interpretation of the material compared. This scepticism should be compared with the words with which Chantraine, *Morph.*² 4-15, concludes his treatment of the laryngeal theory (which is more positive than that in the 1947 edition, p. v-ix): "Les faits analysés ... doivent être placés à leur niveau, qui est celui de l'indo-européen le plus ancien. Sur le plan grec, il ne s'agit que d'archaïsmes figurant dans des formes ou des mots, sans doute importants, mais rares et dispersés. Nous ne saisissons là que des débris". Finally, mention may be made here of the words with which Cowgill starts his treatment of the subject in *Evidence* (p. 143): "To my mind, there is relatively little in Greek itself that can be explained better by laryngeal theory than without it". This pronouncement is a result of the fact that Cowgill — who without doubt must be considered one of the adherents of the theory — in my opinion wrongly rejects many explanations which the theory renders possible.

Recently (1964) Hiersche, *Unters.* 10-2, summarized his objections to the laryngeal theory in six points. As these are more or less the general objections of the theory's opponents, it may be as well to discuss them briefly here.¹¹ For it seems to me that all the points can be adequately answered, albeit not all refuted. His points are as follows (the quotations are not complete):

(1) Als blosse Symbole für Laute unbekannter Qualität, die nur in ihren Reflexen fassbar werden, bringen die Laryngale keine echte Lösung

(2) Bedenklich ist die Vielzahl der Laryngale, deren Skala jetzt von 1 bis 10 reicht.

(3) Die phonetische Natur der Laryngale konnte bisher nicht eindeutig bestimmt werden.

(4) Die Laryngale sind in der Lage, beinahe jede Lautveränderung hervorzurufen oder selbst zu erfahren, was in der allgemeinen Phonetik nicht seinesgleichen hat.

(5) Die Laryngaltheorie kommt zumeist ohne Annahme von Analogiewirkungen, umständliche Hilfskonstruktionen, Aufstellung neuer, oft wenig überzeugender und gewaltsamer Etymologien nicht aus.

(6) Die Laryngaltheorie lässt oft eine kritisch-philologische Sichtung des von ihr verwerteten Materials vermissen.

The first point is based on a lack of methodical insight. The comparative historical study of language knows only reflexes. It will suffice here to refer to Meillet's explanation of the method in his *Introduction*, e.g. p. 44: "... un phonème indo-européen est défini par un système de correspondances". It will be clear that only after such a system has been drawn up as accurately as possible can one try to obtain an idea of the

ments, much more than the dictionaries of De Vries and Fraenkel, where one too often finds merely a list of the cognate words, without a discussion of the genetic connection. The present author has consequently made grateful use of Frisk's extensive work, which may be stated here as a counterweight to the criticism which this book gives.

¹¹ After the following had been written, I found that it agrees almost entirely and is sometimes literally identical with the criticism by Kuiper in *III*, 9 (1966), 223 f.

phonetic value that this phoneme must have had. However, this necessarily remains at all times a broad approximation.

In my opinion point 3 is identical with point 1. As we have seen, the fact that the phonetic value can hardly be determined need not be an essential drawback.

The discussion of the number of laryngeals is indeed — in part — a depressing business. But it is rather unfair to call the extremes 1 and 10. Once the starting-point of the theory has been accepted, practically everyone explains the \bar{e} and \bar{a} assumed for the proto-language as eh_1 and eh_2 respectively, so that two laryngeals are almost universally assumed.¹² The existence of the third is less evident, since \bar{o} could be explained as an ablaut variant (i.e. from oh_1 , with or without in addition $oh_2 > \bar{o}$). The existence of a third laryngeal has therefore never been considered proven by Pedersen. To demonstrate this third laryngeal is one of the principal objectives of this book. A fourth laryngeal was assumed on the strength of interpretation of the Hittite material. In my opinion this is a weak basis, since the interpretation of Hittite still presents many difficulties (see below). I cannot appraise Hamp's attempt to demonstrate the fourth laryngeal in Albanian (*Evidence*, pp. 123-41). However, I believe that the same objection applies here as in the case of Hittite. Now if an eminent scholar like Pedersen did not consider the existence of the third laryngeal as irrefutably proven, and on the other hand Kuryłowicz and Sturtevant, two other great proponents of the theory, felt themselves obliged to assume a fourth, it is a puzzle to me how anyone can come to assume more than four. These have largely been posited on the strength of theoretical considerations.¹³ However, as long as such considerations find no support from facts, the "correspondances", and an adequate number of these, they may not be taken as a basis. One should assume two laryngeals, the third has still to be demonstrated — and I believe that the Greek material does not leave the slightest doubt about this — and a fourth may prove necessary once the interpretation of the Hittite (and the Albanian) material has become more reliable.

What is stated under point 4 may at first sight appear disquieting; once the principle of the theory has been accepted, the question is to investigate which developments are probable and which are not. "Dehnung" and "Abtönung" are the two bases of the theory ($eh_2C > \bar{a}C$). It may be a point of discussion whether the consonantal laryngeal can cause aspiration (and sonorization); however, these are the only phonetic developments (apart from vocalization) that can be mentioned. Development to k or r is assumed by only a few and can safely be left out of consideration. On the other hand, the fact that the Greek and Armenian prothetic vowel, Attic reduplication and other phenomena can be explained by the theory, practically without auxiliary hypotheses, can only plead in favour of the theory. Indeed, it is the best conceivable

¹² Only Zgusta, *Archiv Orientální*, 19 (1951), 428-72, made do with one laryngeal. He based his theory on the Hittite data and was of the opinion that the opposition $h:hh$ could not yet be regarded as evidence of two different laryngeals.

¹³ See for instance Puhvel's scheme in *Evidence*, p. 92, where six laryngeals are assumed on the strength of a presumed opposition voiced:voiceless.

support for a theory if it can explain other facts than those on the strength of which it was drawn up. Now the laryngeal theory proves capable of giving an explanation on entirely different points, which raises its correctness above all doubt.

It is not true to say (point 5) that laryngeal theory does not work without complicated auxiliary hypotheses. Here Hiersche bases his criticism on the most unfortunate excesses of the theory, which — and that must be admitted — are to be regretted.¹⁴ It must be pointed out that Kuryłowicz' explanations were of great simplicity, which impressed even opponents (such as Marstrand).¹⁵ As against Debrunner's words quoted by Hiersche¹⁶ one can, however, set the former's pronouncement: "Die Forschungen K.'s ... erklären ... zahlreiche Absonderlichkeiten der idg. Lautlehre überraschend leicht."¹⁷ The explanations of certain phenomena in Greek defended in the present book are likewise of extreme simplicity (cf. in particular part three: "Conclusions"). Analogy is of course a general linguistic phenomenon, and when allowance is made for the effect of analogy in the application of the theory no excuse need be offered for so doing.

Systematic critical-philological research into material is one of the weakest points of most laryngealists. It is indeed irritating to see that conclusions are often built up on two or three facts. I hope that this book does not suffer from that defect.

A strict distinction must therefore be made between the theory and its application by individual researchers. It is undeniably true that the manner in which many have used it cannot withstand the test of criticism. But I do not see an essential argument against the theory in these six points.

Like all theories, the theory must be appraised by verifying it against the facts. Theoretical discussions can do no more than state possibilities.¹⁸ A parallel case is the deciphering of Mycenaean: the starting-points on which the deciphering was based

¹⁴ See for instance the theory of Vey discussed below (p. 209). Compare also the pronouncements of decided laryngealists on Lehmann's hypotheses about Germanic (in *PIEP*, pp. 36-73): "the least convincing and inspiring sections of the book, with their array of phonetic laws established upon a handful of pretty inconclusive cases, with little or no regard to phonetic likelihood" (Martinet, *Word*, 9 (1953), 287) and "His argumentation ... too often consists of a concatenation of assumptions, none of which has a solid foundation in facts" (Kuiper, *Lingua*, 5 (1955), 319-24).

¹⁵ For instance Polomé, *Evidence*, p. 26, n. 116, calls Zgusta's ablaut scheme, which corresponds to the one defended in this book, "extremely simple": with something of regret?

¹⁶ "Alle Erscheinungen, die sich mit einiger Wahrscheinlichkeit ohne die Laryngalthorie erklären lassen, sollen mit Laryngalen verschont werden"; etc. *Kratylos*, 3 (1958), 29.

¹⁷ *IJb*, 13 (1929), 67. It emerges from this how greatly confidence in the theory suffered in those years among some — and not the least important — authorities.

¹⁸ An interesting example is the article by Wyatt, *Lg* 40 (1964), 138-52. One of his opinions is that the argument by Cuny (see p. 203 of this book) that *CR̥C* cannot explain the historically demonstrable forms, so that *CR̥C* must be assumed, "is a false issue, since it is a phonetic guess" and not a phonemic consideration. Such a manner of reasoning is something that I cannot follow: if the historical facts point to a consonantal *ṛ*, how can one then argue on the strength of a theoretical consideration that this is "a false issue"? After all, this finding gives an important property of the phoneme. Here the structural method is wrongly used in the field of linguistic-historical research, by giving structural considerations a priority that cannot be founded on facts.

are irrelevant to the question of the accuracy of the deciphering, now that the result irrefutably demonstrates the correctness thereof.

How has this verification to be performed? In the first place, of course, the philological examination of the material urged by Hiersche is required. For this it is desirable first to consider all possible developments within one language or linguistic group, making use only of what can be regarded as definite from the other languages.¹⁹ The languages most suitable for study are without any doubt Hittite, Indo-Iranian and Greek. There seems to be a widely held view that all research in this field must begin with Hittite.²⁰ I doubt this. In my opinion the interpretation of Hittite still offers too many difficulties for a "philologische Sichtung" to be sufficiently reliable in that case. Compared with the more than two millennia during which Indian and Greek have been studied, the study of Hittite (since 1917) may be said to have just begun. Moreover, there is much less material available of this language and the script presents particular difficulties. This consequently means that the chance of incorrect interpretation is greater here than in Indian and Greek. Indo-Iranian offers many prospects. As a result it is not coincidental that Kuryłowicz took up the theory again (in 1926) from Indo-Iranian (and Greek) and not only from Hittite, as is often suggested. However, in Indo-Iranian the problems seem more complicated and the material is more extensive than in Greek, while the latter language has the advantage of having preserved the original timbre of the laryngeals. Consequently a systematic treatment of the Greek material seems useful at this time.

There is no manual for the theory and evidently the time is not yet ripe for this. Since Kuryłowicz' *Etudes* (1935), which is still the best, nothing of this kind has been published. For Lehmann's book see the criticism cited above (p. 5 n. 14). *Evidence* (1965) is a collection of papers of a very varied nature. The one by Cowgill seems to me to be among the best. I have therefore made grateful use of it (initially in the 1960 version), but I differ in opinion from him on many essential points.

¹⁹ For it is evident that the laryngeals existed down to the separate languages. The following may be commented on this. If the laryngeals were not preserved down to the separate languages, that would mean that they had already disappeared from the proto-language as independent phonemes. If this were so, they would not, by definition, be demonstrable by the comparative method; the theory would have to remain a hypothesis for ever. In this form the laryngeal theory would therefore be a glottogonic speculation. However, the laryngeal theory proceeds from the fact that the phoneme that is determined by the correspondence Ind.-Ir. *i* — other languages *a* (i.e. the earlier shwa, *ə*) always or usually had a consonantal function. That this phoneme was preserved down to the separate languages can therefore not be doubted, by definition, since it is the phoneme which — inter alia — is determined by the above correspondence: if it had disappeared without trace or merged with another phoneme in the proto-language, it could not have had a separate series of correspondences. The real problem is therefore: 1. was this phoneme in fact always or at least usually consonantal? and 2. was it preserved in all positions down to the separate languages? This question can be answered only by investigating the development of this phoneme in every conceivable position in all languages. If the assumption that the phoneme was (or could be) consonantal proves to explain more than that according to which it was exclusively vocalic, the theory must be regarded as correct.

²⁰ For instance Couvreur, *Ant. Class.*, 12 (1944), 104: "Il est évident que toute étude sur les phonèmes 'laryngaux' en indo-européen doit avoir son point de départ en hittite."

B. STARTING-POINTS

It is not necessary here to give a survey of the history of the research, since Polomé did that recently in detail (*Evidence*, pp. 9-44). However, it is necessary to determine our position in the sea of views. Of the dominant figures, little mention will be made of Sturtevant in the following observations. The three most important points in his interpretation are: (1) he assumes four laryngeals; (2) he disclaims vocalization of the laryngeal; (3) he connects the theory with his Indo-Hittite hypothesis. These starting-points are unacceptable to me. The number of laryngeals has been discussed above. It seems to me incorrect to assume when studying Greek that there was a fourth laryngeal. Sturtevant's solution of the vocalic representation of the laryngeal (for which he assumes \bar{h}_e , laryngeal followed by a reduced vowel) is untenable; the first chapter of this book gives a clear argument for this (besides the others that there are). The Indo-Hittite hypothesis need not be further discussed here. Further theories of Sturtevant have also proved untenable.²¹

The basis on which this book rests is formed by the studies of Pedersen and Kurylowicz. Pedersen had already incorporated the theory in his *Vergleichende Grammatik* (1.177-83) in 1909. In 1926 he used it to explain the Latin fifth declension, in 1938 he drew a parallel between Hittite and Indian and in 1945 he demonstrated that the Lycian χ corresponds to the Hittite \bar{h} and is a direct representative of a laryngeal.

Kurylowicz' articles from 1926 to 1928 and their summary in his *Etudes* meant a revival of the theory, which had passed into oblivion since 1900 (except in the case of a few scholars, such as Pedersen and Cuny). Although his observations on Indian and Greek are no less important, the spectacular interpretation of the Hittite \bar{h} as the reproduction of a direct representative of a PIE laryngeal drew particular attention to the theory.²² Unfortunately, as stated above, in his later works he abandoned many of his ideas.

In a series of studies (since 1942) Kuiper has dealt with various problems in Indo-Iranian which are of importance to the theory. These articles, like those by Kurylowicz, are listed in the bibliography.

In the following a summary is given of what is regarded as proven from now on. The fundamentals of the laryngeal theory taken as starting-points are the following:

²¹ For example his explanation of the Greek κ -perfect; see the discussion in Cowgill, p. 175f.

²² One of the most striking cases of parallel discoveries is that Cuny published the same idea in a footnote which ended up on the page opposite to the one on which the article by Kurylowicz begins (*Symb. Rozw.*, pp. 94 and 95). This discovery is of great fundamental significance, but in practice it is less important than one had hoped: "Diese Bestätigung, die erst gefunden wurde, nachdem die Theorie ... ungefähr ihre endliche Form erreicht hatte, zeigt, auf wie sicherer theoretischer Grundlage die Theorie aufgebaut ist. Es darf als ein Triumph der vergleichende Sprachwissenschaft betrachtet werden, dass sie imstande war, die frühere Existenz eines Lautes nachzuweisen, der in den damals bekannten Sprachen verschwunden war und erst später in einer neu entdeckten Sprache auftauchte" (Hendriksen, *Unters.*, p. 19); "almost disappointing as a support for the theory" (Lehmann, *PIEP*, p. 25).

- (1) the proto-language had at least two laryngeals (h_1 and h_2);
- (2) the laryngeals are mostly consonantal, but the proto-language also had vocalic allophones (\tilde{h});
- (3) in most positions the laryngeals have been preserved down to the individual languages;
- (4) in various languages a PIE consonantal laryngeal could be vocalized;
- (5) in Hittite h can be a direct representative of a PIE laryngeal (to which χ corresponds in Lycian);
- (6) a number of phenomena in Indo-Iranian to be further specified are caused by a laryngeal.

Some remarks may be made on these points.

The first needs no comment. Cf. p. 4 above.

Re 2. Kuiper pointed to the need to assume both vocalic and consonantal laryngeals for the proto-language. The following concise arguments are taken from his *Notes*, p. 20ff. The Indo-Iranian forms of the word for 'daughter' point to gh , which must have been formed from $g + \tilde{h}$. As here the laryngeal cannot have stood before a vowel, it must have brought about aspiration of the preceding occlusive between consonants as well. As the same situation occurs with the word for 'father', one would expect **phitar-* here; the form *pitar-* can be explained only by assuming a vocalic laryngeal which did not aspirate the preceding occlusive.

Skt. *duhitár-* points to aspiration by the consonantal laryngeal, but the i must stem from a vocalic laryngeal. This suggests that this word has had a paradigmatic change \tilde{h}/\tilde{h} . The truth of this assumption is demonstrated by the Late Avestan forms of the word for 'father':

nom. sg.	<i>pita</i>	dat. sg.	<i>fəðrōi</i>
acc. sg.	<i>pitarəm</i>	dat. pl.	<i>ptərəbyō</i>

The i is thus missing in the weak cases, where evidently a consonantal laryngeal has disappeared, which apparently always happened in Avestan (after aspiration of the preceding occlusive, **phtr-V- > *phtr-V- > *ftr-V- > *fθr-V- > fðr-V-* as against **phtr-C- > *phtr-C- > *ftr-C- > pθr-C-*). In the strong cases the i must then be attributed to a laryngeal already vocalic in the proto-language.

Re 3. What is posited above follows from the difference discussed above between Indian and Iranian and from points 5 and 6. Cf. above p. 6 n. 19.

Re 4. For Indian this follows for instance from the neuter plural, of which the ending must have been a consonantal \tilde{h} , as appears from Av. *manā* [*manāh*]; cf. p. 152. Skt. *mānāmsi* points to a secondary vocalization. In the same way we have Av. *nāman* as against Skt. *nāmāni*.

Indian often has i where the laryngeal has disappeared in Avestan, e.g. Skt. *ṛṇitē*: Av. *varənte*, *brāvīti*: *mraoiti*, *gr̥bhītā*:- *garəpta-*, *gabhīrā*:- *jafra-*. It is improbable that the i in Indian is founded in all these cases on generalization of \tilde{h} , which then would have originally been in paradigmatic interchange with \tilde{h} .

A special case is Skt. *tigitá-* 'sharp'. As Avestan has no participle ending in *-ita-* (cf. Av. *gərəpta-* : Skt. *grbhī́tá-*), the ending here must be based on *-hto-* (with secondary vocalization in Indian). This form *-hto-* has then been preserved as such in the individual languages. This will also have been the case in *tigitá-*, which explains why the *g* is not palatized here. The latter in turn confirms the truth of this interpretation.

It may be useful to summarize the representation in Indo-Iranian:

PIE	<i>h̥</i>	Av.	<i>i</i>	Ind.	<i>i</i>
	<i>h</i>		zero		zero/ <i>i</i>

It will be clear that the above is important to the question whether one is concerned with a consonantal or a vocalic laryngeal of the proto-language. The vocalic laryngeal is — by definition — found in all languages as a vowel, but once it coincided with vowels of a different origin it was naturally subjected to more recent sound changes. If, therefore, the laryngeal has disappeared in one language in the corresponding form, where a vowel would normally have been retained, the proto-language had the consonantal allophone here.

The only way of establishing a vocalic laryngeal with certainty seems at present to be comparison with the Avestan forms. For in this language secondary vocalization does not appear to have occurred (although of course it should be asked what criterion there is for this). The Germanic and Hittite material does not in my opinion as yet allow of sufficiently reliable conclusions in this respect. The vocalic allophone is therefore the most difficult to establish and if a corresponding form is missing in Avestan — which of course is often the case — certainty is difficult to acquire here. Since, as we shall see, secondary vocalization was very pronounced in Greek, when further proof is impossible it will be assumed that the laryngeal was consonantal.

Re 5. For this no further proof is required. The opposition *h* : *hh* is not used in this book.

Re 6. Various phenomena in Indo-Iranian can be most easily explained with the aid of laryngeal theory. The principal ones are the following.

(a) An aspirate in Indo-Iranian that corresponds to a non-aspirate in the other languages can be caused by a laryngeal following the occlusive. This point is now almost universally accepted. The clearest example is GAv. *dugdar-*, which must have been formed from **dhugh̥ter-* according to Bartholomae's Law (**dhughtar-* > **dhugdhar-* > *dugdar-*). As the latter must have operated in the Indo-Iranian period, the transition *gh* > *gh* must be still older. Of antevocalic instances there are, among many others, the celebrated cases *pr̥thú-* and *pánthāh̥*, which are discussed on p. 179; cf. under *b* as well.

(b) Some cases of hiatus are explained by assuming that at least until shortly before the period of the oldest texts a laryngeal stood between the vowels concerned.

For instance, one finds (the hiatus is indicated by '):

Ved. *bha's-* for *bhās-* from the stem *bhā-*, PIE **bheh-es-*, the type *manas-*, PIE **men-es-*;

Ved. *pántha'am* for *pánthām*, Av. *pantqm* [*panta'am*], PIE **ponteh₁-m*;

Av. *mazda'am*, PIE **mǵz-deh₁-m*;

Ved. type *vr̥kí'ah*, *tanú'ah*, PIE **u̯lk'-ih-ós*, **t_en-uh-ós*;

Ved. *préṣṭha-* [*prayiṣṭha-*], PIE **preiḥ-is-*.

In Vedic only a few traces are left of such a hiatus, preserved as archaisms, but Gāthā-Avestan seems to display a hiatus consistently in all cases where a laryngeal must be assumed.

It should be pointed out that in the inflexion of the word for 'path' the two phenomena mentioned occur; Avestan has here preserved the original situation the best:

sg. nom.	PIE <i>*pont-éh₁-s</i>	LAv. [<i>pantāh</i>]
acc.	<i>*pont-éh₁-m</i>	LAv. [<i>panta'am</i>]
gen.	<i>*pǵt-h₁-ós</i>	LAv. [<i>paḍah</i>]

(c) Apparent exceptions to Brugmann's Law are explained by assuming that these forms originally contained a consonantal laryngeal, so that the *o* was in a closed syllable. This is found in:

separate words, e.g. *jána-* < **ǵonh₁-o-*, Gr. γόνος;

the first person singular perfect active, type *cakāra* < **k^ue-k^uor-h₂e* (with the ending *-h₂e*, Hitt. *-ha*, Lyc. *-χα*, Gr. *-α*), as against 3 sg. *cakāra* < **k^ue-k^uor-e*;

the causatives, type *janáyati* < **ǵonh₁-éǵeti*, as against *pādáyati*;

the aorist passive, type *ájani* < **é-ǵonh₁-i*, as against *ákāri*.

(d) Vedic forms that end in a long vowel but have a short vowel *in pausa* indicate that in Indian the form still ended on a laryngeal shortly before the beginning of transmission. This phenomenon is discussed in greater detail on p. 145 f.

(e) Indian had laryngeal umlaut; the colour (*i*) of a 'prop-vowel' (either of PIE origin, or of more recent date) was determined by a following laryngeal even if these two sounds were separated by a sonant. For instance *timirá-* < **t_em̥h₁-ró-*. The development of the sonant + laryngeal group is based on the same principle, e.g. *r̥h* to *ir* before consonant, *ir* before vowel, which must have gone via a phase *r̥h* > *ir̥h*. For a more detailed discussion see p. 208.

(f) When a zero in Avestan responds to an *i* in Indian, we are concerned with a consonantal laryngeal vocalized in Indian. For instance *ǵrbhītá-* : *ǵarapta-*. See further under point 4.

(g) An *i*/zero interchange within Indian (and Iranian) will go back to a paradigmatic interchange of vocalic and consonantal laryngeal. For this interchange see under point 2 and also compare:

nom. acc. sg. *jánima* : instr. sg. *jánmanā*, etc.;

mahimán- (in *mahimná*) : instr. *mahná* (< **mažhmná* < **megh₂mnē*);

vánitā, *vánitāram* : instr. *vantrá*, etc.

(h) The compositional shortening of the type *carkṛtí-* as against *kīrtí-* can be

explained only by assuming that the laryngeal has disappeared from **k_hti-*. For a more detailed discussion see p. 166, 204 and 242 ff.

C. FURTHER ASSUMPTIONS

It seems useful here to point explicitly to three matters which are of importance to this work. What is posited here will be used without further argumentation. They are the following.

(1) PIE had a phoneme /*e*/, which can best be described as a not very clear vowel, which was probably formed in an earlier stage of the proto-language through weakening from *e* as a result of stress effect. This is the so-called *shwa secundum*,²³ Meillet's °, Sturtevant's *ɐ*.

This is not the place to reproduce and consider the long discussion on this problem. For recent literature see Polomé, *Evidence*, p. 29 n. 126. In my opinion, various forms oblige us to assume such a phoneme; we need only envisage such Latin ones as *quattuor* and *canis* and Greek ones like βαρύς (Skt. *gurí-*) < PIE **g^h_rú-*; cf. the type *pámi pāmāh* from **péhmi* **p_ehmés*, Kuryłowicz *Etudes*, p. 56 f. In this work the need is shown to assume such a phoneme for the proto-language for a certain category (p. 260 ff.), but in numerous other forms this assumption likewise proves inescapable.

(2) PIE had two types of inflexion, known as proterodynamic and hysterdynamic. Hysterdynamic inflexion is characterized by the zero grade of the suffix in all cases of the singular except the nominative and the accusative, with the ending *-e/os* in the genitive. Proterodynamic inflexion, on the other hand, has the full grade of the suffix in the weak cases, with the ending *-s* in the genitive. The change in the suffix is responded to by a similar one in the stem. The stress seems to have been a decisive factor. The essential thing is that the two types of inflexion appear to have been possible in all nominal classes. For instance:

	hysterdynamic	proterodynamic
sg. nom.	πατήρ < <i>-ér</i>	<i>*mént-i-s</i>
acc.	πατέρα < <i>-ér-_hi</i>	<i>*mént-i-m</i>
gen.	πατρός < <i>-r-ós</i>	<i>*m_ht-éi-s</i>

This idea was brought to the fore by Pedersen, *Cinq. décl.* 23-5, but even he was sceptical with regard to the possibility of establishing this more accurately. In *Notes on Vedic noun-inflexion* (pp. 1-70), Kuiper worked out the theory, in which form it is used here.

In the individual languages this original system has been simplified in various ways. Traces of ablaut both in the stem and in the suffix are, however, so frequent

²³ "Güntert, *Indogermanische Ablautprobleme*, Strassburg 1916, hat die in jeder Beziehung verfehlt Benennung Schwa secundum (schöne lateinische Orthographie!) eingeführt" (Pedersen, *Hitt.*, p. 161, n. 1).

that they cannot be denied, any more than the existence of the two paradigms given above. Consequently I do not see objections of a general nature. Kuiper has found numerous indications of the correctness of the theory in (mainly) Indo-Iranian. But further research, which is urgently required, has not been performed.

A group of Greek forms which can be combined in this way into a paradigm consists of λειμών (-ῶνος), λιμὴν (-ένος), λίμνη; see Frisk, II, pp. 97 ff. These forms seem to originate from a hysterodynamic inflexion:

sg. nom.	* <i>leim-ōn</i>
acc.	* <i>leim-én-ni</i>
gen.	* <i>lim-n-ós</i>

For *-ōn -én-ni* cf. *Nerio -enem* and Lith. *piemuõ plemenĩ*. From this **leimōn* will first have been detached (with the nominative as stem); then within the newly formed **leimēn* **leimén-ni* **limnós* the zero grade of the stem of the weak cases will have been generalized, after which in λιμὴν λιμένα **limnós* (type ἀρήν ἀρνός) the zero grade of the suffix has been abandoned (before consonant **limn-* must have become **lima-*; the form **limasi*, as is known, has been replaced by λιμέσι), as in ποιμήν, -ένος. The zero grade can still be seen in λίμνη (cf. ποίμνη and ποιμαίνω).

The forms δώτωρ -ορος and δοτήρ -ῆρος could point in the same way to one original paradigm:

* <i>deh₃-tór</i>	> * <i>δωτώρ</i>
* <i>deh₃-tér-ni</i>	> * <i>δωτέρα</i>
* <i>déh₃-tr-ós</i>	> * <i>δοτρός</i>

With *o*-vocalism of the suffix the form δώτωρ has the full grade of the root like λειμών; δοτήρ has *e*-vocalism of the suffix with zero grade of the root, like λιμὴν. That the two forms derive from one paradigm is perhaps confirmed by Lat. *dator*, which connects the zero grade of the root with the *o*-grade of the suffix. (The zero grade of the suffix in Skt. *dātré dātṛśú*.) Cf. βώτωρ βοτήρ. The same distribution is also found in ἀλέκτωρ (δ 10) ἀλκτήρ (Il. Od.): **h₂lektór* **h₂lektér-ni* **h₂lktρός*? The fact that the nominative has full grade may be the cause of the stress of the forms having been shifted back from -τωρ. Without ablaut in the root one finds ἰάτωρ ἰητήρ (Myc. *ijate*) ἱατρ-. The type of ῥήτωρ ῥητήρ may be based on ablaut **ureh₁-*/**urh₁-*. Cf. δημήτης as against (παν-) δαμάτωρ, which may stand for **deh₂-*/**demh₂-*).

(3) Greek has many words of non-Indo-European origin. Often discussion is seriously hampered by the fact that elements are brought into it which are of foreign origin. This can also be encountered in Frisk's dictionary. It is therefore of great importance that more systematic research be performed on this point. The language (or languages?) from which these words must have been taken are referred to as 'pre-Greek', 'pre-Hellenic' or 'Mediterranean'. The last term then means that this language may have cognates in other regions in the Mediterranean basin. In this book we shall mainly confine ourselves to 'non-Indo-European'. The term 'Pelasgian' will not be used, since it is bound up with the theory of the "Protoindogermanische Schicht", which I do not consider to be sufficiently reliable.²⁴

²⁴ This theory is defended above all by Georgiev, Van Windekens and Carnoy. See for instance Van Windekens, *Etudes pélasgiques*, Louvain 1960. A study of the testimonia on the Pelasgians may be found in Lochner-Hüttenbach, *Die Pelasger* (Vienna 1960).

Among the formal criteria of this language special reference may be made to the procedure of prenasalization.²⁵ This term indicates that, besides forms with occlusive, cognate forms occur with nasal in front of the occlusive, e.g. σαλάβη : σαλάμβη, κυβιστάω : κύμβαχος; κολύφανον : κολύμφατος; κιδάφη : κινδάφη, Διδυμήνη : Δινδυμήνη; αἴγιθος : αἴγινθος, ἀσπίθιον : ἀψίνθιον; κίχραμος : κύγχραμος, θάλασσα : θαλάγγαν.

In addition some words seem to have been derived from a Central European language, since they have related forms in other Indo-European languages in Europe (mostly Balto-Slavic and Germanic), but seem to be non-Indo-European. It is not always possible to distinguish between these two groups — assuming the fundamental correctness of the theory; this book does not go into this matter, since it is of no further importance here.

D. OBJECTIVE AND SET-UP OF THE WORK

The objectives of this work are:

- (1) to verify on the Greek material the correctness of the starting-points stated above (p. 8) as regards the laryngeal theory;
- (2) to demonstrate the need for assuming a third, *o*-colouring laryngeal for the proto-language;
- (3) to study all Greek developments of the laryngeals and groups with laryngeal.

The treatment of the material appears from the table of contents. This purely formal arrangement proved to be the most appropriate one from a methodical point of view. The first chapter on the “prothetic vowel” forms a self-contained whole that leads to obvious conclusions. This is reinforced by the treatment of the negative adjectives with νη- νω- (which in turn form a parallel of part of the problem of the disyllabic roots, which is dealt with in the last chapter) and Attic reduplication; the latter points ahead to the first chapter of the third part (ch. VI: After vowel before consonant). More difficult to demonstrate is initial laryngeal before vowel. The development at the end of the word is more troublesome, since in this case more allowance has to be made for the effects of analogy. Of course the third part is more complicated, since in this allowance has to be made for both the preceding and the following sounds. The developments discussed in chapters VI to X of this part, which in general are of less importance, are difficult to demonstrate. Far and away the trickiest problem is that of the disyllabic roots, which at the end is considered as a whole. This is followed by a short study of possible dialectal differences. In the last part the results are summarized and placed in a wider context, following on the general remarks in the introduction. As this survey shows, there is a close connection

²⁵ Various cases of this have been collected by Ch. Autran, *Tarkondemos*, Paris 1922, pp. 83-6. The examples given here are taken from Kuiper, *Μνήμης χάριν*.

between the various parts of the book. The work must therefore be regarded and appraised as a whole.

It should finally be remarked that not all the theories that have ever been published are discussed. Many of these have been conclusively refuted by Cowgill (pp. 160-80).

THE GREEK MATERIAL

**LARYNGEAL AT THE BEGINNING
OF THE WORD**

I. BEFORE CONSONANT

A. THE 'PROTHETIC VOWEL'

1. INTRODUCTION

a. *The Problem*

Greek has a number of words beginning with a vowel which in cognate forms in the other IE languages is missing. On the strength of the assumption that this vowel was added in Greek, it was given the name of 'prothetic'. This nomenclature will continue to be used in the following because this term is current and easy, even where it would be incorrect, strictly speaking.

The assumption has been voiced that this prothetic vowel arose from vocalization of a PIE laryngeal. This can therefore only have been the case with inherited IE words. However, it is known that not all prothetic vowels belong to the same group. A distinction should be made between:

(A) prothesis of possible IE origin; if a word is to be regarded as belonging to this group, an IE etymology is necessary;

(B) prothesis of a different origin:

(1) prothesis in words of non-IE but pre-Hellenic or Mediterranean origin; e.g. ἀσταφίς ὀσταφίς σταφίς 'dried grape', which cannot be separated from σταφυλή 'grape', has no IE etymology and whose stem (*stabh-*) seems non-IE;¹

(2) more recent prothesis, consisting of *i* before consonant group beginning with *s*, in late Greek in or near Asia Minor, e.g. ἰσθήλη, ἰστρατιώτης; Schwyzler, 413. This does originate from non-Greek speakers.²

Perhaps related to the latter group is ἐξατράπης Theopomp. and (ἐξατραπεύω) in Carian inscriptions (as against σατράπης X., σατραπεία Hdt.) from *xšaθrapā-, cf. OP xšaçaṛapāvan-.

It will be clear that where a convincing etymology is lacking, only considerations on the structure must decide whether the word is IE or a loan-word from a Mediter-

¹ Lit. Kretschmer, *Einleitung*, p. 422, *Glotta*, 21 (1933), 86-92; Bertoldi, *Riv. Fil. Class.*, 60 (1932), 345, n. 1, *ZRPh*, 57 (1937), 158 f., *Mél. Van Ginneken*, p. 169; Belardi, *Rendic. d. Lincei, sc. mor.* 8, X (1955), 317 f.; Kuiper, *Mνήμης χάριν*, p. 221.

² The phenomenon is already found in Hittite, *išpant-*, *ištantanun*, *išhai*; Kronasser, *Vgl. Laut-u. Formenlehre d. Heth.*, p. 29 f; *Evidence*, p. 27, n. 123. For Armenian see Meillet, *Esquisse*³, p. 53 (*st-* > *ast-*). The same is found in Turkish: *iskelet*, *istasyon*, *istatistik*, *isterilize*. In Phrygian a prothetic *i* is very uncertain, see Haas, *Phr. Spr.*, p. 215 f.

ranean language. In general, however, this is the only way in which the latter group can be identified, since the possibility of an etymology is practically out of the question as long as we do not have a good knowledge of a relative of this substratum language. Thus fundamentally there remains a moment of uncertainty for the individual cases. The last group (B2) is by definition easy to recognize.

Within the words that belong to group A a distinction should be made between two cases. We have:

- (1) α, ε, ο before ρλμνϕ and sometimes other consonants;
- (2) ι before groups of guttural + dental.

In addition there is a second distinction; while in Armenian words with a prothetic vowel correspond to the first group (*infra*), Armenian has no prothetic vowel beside the second group. This group consists of only a very few words which may be listed here.

ἴκτινος (Sch. II. Oxy., Choerob.), ἴκτινος (Hdn.) 'kite' (Semon., Theogn., S., Hdt.): Arm. *çin*.

ἴκτις (ἴκτις) 'marten' (Ar., Arist.) as against κτιδέη (κυνέη K 335. 458). Here Maas, KZ 60 (1933) 286, has suspected an incorrect split from κρατὶ δ'ἔπ' ἴκτιδέην κυνέην; the same explanation is given by Leumann, *Hom. W.* 53 f.

ἰχθῦς: Arm. *jukn* (with *-kn* as in *mu-kn*: μῦς), Lith. *žuvis*.

The laryngeal theory cannot, in principle, offer any solution for the latter group, since in vocalization the three laryngeals gave ε, α, ο. It is not inconceivable *a priori* that an ε (< *h*₁) was assimilated to ι (Schwyzer, p. 256), but this would not explain why Armenian has no vowel there.

A few observations impose themselves. ἴκτις has no etymology; nor is it certain that there is any question of prothesis here. The two other words have the ι before the phoneme *k*^s or *g*^{zh} (**k*^s*ino-*, **g*^{zh}*uh-*). And yet it is improbable that this is in itself the cause of the phenomenon, for one does not have it in κτείνω κτάομαι and χθών χθές. Ἰφθίμος might be important here, if this belonged with φθάνω and Skt. *kṣáyati* (lit. in Frisk s.v.).

Associated with the above cases is perhaps ἴκταρ (Call.): κτάρα: ἰχθῦς βραχύτερος πάντων Hsch.: ἀκτάρα (Sch. Opp.), where the changing form and the meaning point to non-IE origin.

We shall therefore confine ourselves in what follows to group A 1, prothetic vowel α, ε, ο before ρλμνϕ and sometimes before another consonant.

b. *Prothetic Vowel elsewhere*

Besides the prothetic vowel in Greek we find the same phenomenon in Armenian, which will be discussed in the following section, while usually Albanian is also mentioned. Further the Phrygian and Macedonian material should be discussed. The prothetic vowel which Harl, KZ 63 (1936) 19, believes to have found in Iranian, *i* before *ri-*, *u* before *ru-*, has nothing to do with the Greek and Armenian phenomenon.

Albanian. — Hamp, *AION* 2 (1960) 185-90, has disclaimed the existence of the

prothetic vowel in Albanian. He points out that the unstressed short initial vowel in this language disappeared in post-Roman times, *mik* < *amīcus*, *peshkëp* < *episcopus*, *sy* < **ok^ui-ōu* (? cf. Gr. ὄσσε, Arm. *aḡ-k^ʿ*, OCS *oči*, PIE **ok^ui*).³ In addition *l* intervocalically became *ll*, but the words that correspond to the Greek prothetic vowel before *λ* have *l*, *lig* ‘bad, thin, sick’: ὀλίγος, *lyej* ‘to smear’: ἀλείφω, *le(h)* ‘light’ if connected with ἐλαχὺς ἐλαφρός. The fact that *ll-* was preserved in this position is shown by Geg. *llânë*, Tosc. *llërë* ‘arm from elbow to hand’ (ὠλένη, PIE **ōlenā*). Nor does one find a prothetic vowel in *nyerī* ‘person’: ἀνήρ, *myel* ‘to milk’: ἀμέλγω, *nip* ‘nephew, grandson’: ἀνεψιός, *nëndë* ‘nine’: ἐννέα. Next he demonstrates that the three forms cited as evidence of a prothetic vowel must be explained otherwise, *im* ‘my’: ἐμέ, Geg. *ândërr*, Tosc. *ëndërrë* ‘dream’: ὄνειρος, Geg. *emën*, Tosc. *emër* ‘name’⁴: ὄνομα. He believes that *im*, ἐμέ, etc., is a separate case that is not on a par with the other cases of prothetic vowels, which seems correct to me; cf. p. 43. Having regard to the *d*, *ândërr* will stem from **h₃on^h* (**h₃en^h*, ὄναρ; cf. p. 46). For *emën* see p. 47 s.v. ὄνομα.

I consider it to have been convincingly demonstrated that Albanian has nothing that corresponds to the Greek prothetic vowel. Consequently *erë* ‘darkness’ will not correspond to ἔρεβος either.

Phrygian. — LPhryg. *anar* may be a direct representation of **h₂nēr* (IE *ē* > Phr. *a*, cf. *matar*; Haas, *Phr. Spr.*, p. 202), but the context (Haas, *ibid.* p. 106) does not give any certainty for this interpretation.

Even more difficult is OPhr. *onoman*. The word occurs on the Arezastis inscription from the sixth century, so that it is not very probable that this word was borrowed (from Greek), which in any case would be surprising for this word. (Phrygian has another word ending in *-ma(n)* (< **-m^h*) in OPhr. *keneman*, LPhr. *knouman*.) The words are divided here by dots. From the context, the following *daxet* is probably ‘fecit’, but the preceding ... *evet eksetiz* : *ovenin* : is too uncertain. The basic form is unclear. If the first or the second *o* were to go back to *h₃* (the *o* is short, for IE *ō* is written Phr. *ou* or *ω*, *op. cit.*, p. 203), this would presuppose *h₃* > *o* and *h₁* > *e* for Phrygian. In accordance with this would be the etymology of OPhr. *keneman* as **kenəm^h* from **k(h)enē-* (i.e. **kh₁en^h₁-/kh₁ne^h₁-*) in Skt. *khanati khanitum* ‘to dig’, *khani-* ‘mine, pit, quarry’.⁵ This development *ə* (*h₁*) > *e* is at variance with Haas’ *ə* > *a* (p. 204), but this word is not discussed by him there. However, two things argue against this assumption. The form *daket*, *ad(d)aket* seems to correspond to

³ Greek often has the stress on the prothetic vowel (ἔρεβος, ὄνειρος), which has not yet been explained. It must be an innovation.

⁴ I cannot guarantee the correctness of these forms, since they are written differently in different manuals (Hamp’s notation is not consistent either). Frisk seems to have interchanged ‘geg.’ and ‘tosk.’. One also finds Geg. *ëmen ëmën*, Tosc. *ëmër*.

⁵ It does not seem probable that LPhr. *knouman* is a development of OPhr. *keneman*. As *ou* may go back to PIE *ō*, a variant form **kh₁noh₁-m^h* seems obvious. If this is correct, the two forms will point to paradigmatic ablaut. An older form (occurring once) is *kinouma* (with *i*, = *e*, from *h₁*?). However, in Greek inscriptions one sometimes finds it reproduced by κένωμα (through secondary association with κενός?), so that *k(i)nouma* may have developed under the influence of κένωμα.

Lat. *fac-*, i.e. to go back to **dh̥h₁k-*. However, it is conceivable that Phr. *dak-* has the full grade **dheh₁k-* > **dhēk-* (with $\bar{e} > a$, supra), as is probable for *dakar*, *dakaren* 'fecēre, fecērunt'. The form *detoun*, which Haas reproduces by 'fito' (*ibid.*, 104), could have **dh̥h₁-* > *de-*, but the context is too uncertain. If *vrekuntedatoz* contains a second element *-datos* 'given', one would have *da-* from **dh̥h₃-*. However, this interpretation is highly uncertain: the text (the Arezastis inscription) seems to have punctuation after the *n*, although this is not certain; furthermore, the first element (which would have to be the name of a god) is not known (the *v-* prohibits the connection with Βερεκυντ-). If it is in fact a name, allowance must also be made for the possibility of strange (perhaps Iranian) origin. At present, therefore, certainty is not possible, but *keneman* continues to carry weight. Phrygian *onoman* could in that case also go back to **onh₃m̥* (cf. p. 229 f.).

The cases of prothetic vowel mentioned by Haas (*ibid.*, p. 220: *olavos*, *evet*, *ovevin*) are not reliable, since the interpretation of these words is too uncertain. In *oouitetou* 'videto' the group *oou-* can be simply an indication of the bilabial *ɣ*.

Macedonian. — Ἀβροῦτες· ὀφρῦς, Μακεδόνες Hsch. is clear, if the gloss is reliable. Recent discussion in J.N. Kalleris, *Les Anciens Macédoniens* (Athens, 1954), I, pp. 77 ff. Further material, however, is not known to me. If the interpretation of Ἀβροῦτες is right, we would find here a prothetic vowel, but — otherwise than in Greek — with $a < h_3$.

c. The Armenian Prothetic Vowel

Armenian is the only language which, like Greek, has forms that have a vowel as the first phoneme that is absent from the other languages. This phenomenon largely occurs in the same words as in Greek.

G. Royen, *Handelingen van het Zeventiende Vlaamse Filologencongres*, pp. 83 f., denies, in my opinion wrongly, that this is of significance to PIE. Admittedly, in general it is correct that identical phenomena in different linguistic groups do not necessarily go back to the proto-language, but here in my opinion a parallel development is out of the question. Royen points out that prothesis is an Armenian phenomenon. The first phoneme of the PIE groups *tr-* *pr-* was lost, after which the *r*-acquired a prothetic vowel (*erek* 'three' — Skt. *tráyaḥ*; *erastank* ' — *πρωκτός*). On the other hand the *l-* from PIE *pl-* remained without prothesis (*luanam* 'to wash' — *πλύνω*, Skt. *plávate*). In the groups *dr-* *gr-* *bhr-* *sr-* metathesis occurred and the *r*-acquired a preceding vowel, *dr-* > *rt-* > *art-* (*artasuk* < **drak(r)u-* — *δάκρυ*, OHG *trahan*), *gr-* > *rk-* > *erk-* (*erkan* 'mill' — Skt. *grāvā*), *bhr-* > *rb-*, which with dissimilation became *lb-* and with prothesis *e/alb-* (*elbayr* — *φράτηρ*, *albiwr* 'well' — *φρέαρ*), *sr-* > *rs-* > *ř-* > *ař-* (*ařu* 'canal' — Skt. *srutí*).⁶ Even the *r-* of loan-words acquired a prothetic vowel, *erank* 'thigh' — Av. *rāna-*.

Against this it must be posited in the first place that Lazzeroni, *Ann. di Pisa* II 27

⁶ The same phenomenon is found in Ossetic, *tr-* > *ärt-*; *br-* > *ärw-*, *ärf-*; *sp-* > *äfs-*; e.g. *ärtä* 'three'; *äfsad* 'exercise' — Sogdian *spad*.

(1958) 127-37, has pointed out that the prothetic vowel for Arm. *r-* < *tr-* must have come into being *after* fixation of the Armenian accent on the penultimate, in view of *eris*, Goth. *þrins* (which otherwise would have been **ers*, Meillet, *Esquisse*², p. 19), while the prothetic vowel that corresponds to the Greek one dates from before that time, *ayr* — ἀνήρ, with loss of the last syllable after the stress. It emerges from this that the two prothetic vowels are of different origin and that the vowel corresponding to the Greek one is the older of the two.

But, even apart from this, Royen's argument does not detract from the importance of the forms with prothetic vowel that correspond to Greek ones. Firstly these are not exclusively words with a prothetic vowel in front of *r* and secondly there is a clear correspondence between the Armenian words with and without prothetic vowel and the Greek ones. Compare the following (leaving aside the cases with *r*):

<i>alk'at</i>	ὀλίγος	as against	<i>loys</i>	λευκός
<i>aluēs</i>	ἀλώπηξ		<i>loganam</i>	λούω
			<i>lk'anem</i>	λείπω
<i>anicanem</i>	ὄνειδος	as against	<i>nor</i>	νε(φ)αρός
<i>anurj</i>	ὄνειρος			
<i>anun</i>	ὄνομα			
<i>ayr</i>	ἀνήρ			
<i>inn</i>	ἐννέα			
<i>atamn</i>	ὀδών	as against	<i>tasn</i>	δέκα

There seem to be a few exceptions. For instance *mēg* — ὀμίχλη and *mēz*, *mizem* — ὀμείχω. Austin, *Lg.* 17 (1941) 83-92, considers them both to be loan words from Persian, which may be correct; cf. Hübschmann, p. 474. As examples of the opposite *olok'* and *amis* are stated. *Olok'* 'shinbone' is connected with λοξός 'slanting, cross-wise', which semantically is not convincing. Nor is there an obvious relation between λοξός and Lith. *alkūnė*, Russ. *lókotb* (< **olkot-*) 'elbow'. Fraenkel connects *alkūnė* with ὠλένη. Cf. also p. 20. *Amis* 'month' — μήν is, however, obvious. It has been suspected that the *a* was taken over from *arev* 'sun' and *astl* 'star' (Winter, *Evidence*, p. 29). One could further think of the influence of *am* 'year', *amarn* 'summer', *awr* 'day'. That *amis* is recent becomes probable through the following considerations. Beside the stem **mēns-* (Gr., see Frisk; Lat., Celt.; Ind.-Ir.?) the forms **mēnes-* (Lith.) and **mēnōt-* (Germ., Balt.) existed. The Armenian form cannot stem from the latter group, for then the *-s* could not be explained. This must go back to *-ns* (Meillet, *Esquisse*², p. 39). But the form **amēnsos* posited by Hübschmann (*Arm. Gr.* I 417) and Meillet nowhere finds support. It might seem likely that the basic form was **amēns*, partly in view of the correspondences between Armenian and Greek and Indo-Iranian. However, this is impossible, since in that case the Armenian stress would have fallen on the prothetic vowel (*supra*) and the vowel of the second syllable would have disappeared (**amēns* > **ams*, cf. **anēr* > *ayr*). Thus the basic word was **mēns*

> **mis*, with a 'prothetic' vowel of more recent date than the others and thus of different origin. S. E. Mann, *Armenian and Indo-European*, p. 19, explains *amis* as *am-mis* 'month of the year', by way of distinction from *mis* 'meat' (from PIE **mēms-*, Skt. *māms-*).

Recently Szemerényi, *Syncope*, p. 112, repeated the counter-examples of Kuryłowicz, *Apophonie*, p. 270, viz. *jukn* — *ιχ9υς* and *k'san* — **ἐφκοσι*. However, both are irrelevant. The first belongs to another group, as seen above (p. 19). As regards the second, it must be borne in mind that Armenian never has a prothetic vowel before *y*, cf. *ἄεσα*: *gom*. Here, therefore, Armenian has a different development from Greek; cf. p. 76. See moreover for **ἐφκοσι* p. 60 ff. and p. 76 ff. It should be noted that there is no certain case of prothetic vowel before *m* either, as far as I can see.

These counter-examples are not strong enough to dispute the principle. The fact of the correspondence between Greek and Armenian remains and is so striking that common origin is an inescapable conclusion. Influence of a substratum or "inherited Indo-European speech-habits" (Szemerényi, *loc. cit.*) alone cannot explain the occurrence of these exact resemblances. In anticipation of what follows it must, however, be admitted that the question remains why precisely Greek and Armenian have vocalized the PIE laryngeal in this position. Here the influence of a substratum cannot be excluded; cf. p. 18 n. 1. But this is something fundamentally different from explaining the prothetic vowel directly by the phonetic laws of a substratum. The matter must be further left out of consideration here.

d. Attempts at an Explanation

So far, if we except the explanation with the aid of the laryngeal theory, the so-called prothesis has not been adequately explained.

The explanation has been sought in "verfrühtes Einsetzen des Stimmtons im Satzanlaut (oder ähnlich)", Schwyzler, p. 412.

Another very widespread idea is that these are sandhi vowels, developed between consonants in the whole of the sentence.

Neither of the two, however, can explain the correspondence with Armenian nor elucidate the appearance of *ε* and *ο* as well as *α*. The well-known formulation by Meillet, *BSL* 27.130, "résonance de timbre vague qui ne s'est précisée que peu à peu", does not explain why now this vowel appears and then that one. Another argument against the theory of the sandhi vowels is that such a vowel is not found in words of exactly the same structure as those that have that prothetic vowel. Moreover, Winter, *Proth. Vok.*, p. 2, is correct in his objection that Greek laws concerning word end greatly reduce the chance of difficult combinations of consonants. If one assumes, as one is compelled to do and as the correspondence with Armenian would also indicate, that these 'prop-vowels' date from before the effect of these laws, then these vowels had to be preserved despite the fact that the groups in which they arose disappeared, which is after all most improbable. Moreover, the prothetic vowel is found in by far the largest number of cases before sonants (*r l m n y*), and much less before other

consonants, rarely before groups of consonants (only ὀφρῦς). Compare also the criticism of the theory of Adrados, p. 29 f.

Meillet's idea (*l.c.*) of also regarding the ε at the place of the reduplication of the perfect in ἔκτημαι, ἔζεγμαι as a prothetic vowel (which for instance is still found in Chantraine, *Gr. Hom.*, p. 422, *Morph.*², pp. 187 f.) seems to me entirely incorrect. It is surely evident that in these cases the ε has the function of reduplication, and so is a functional element, which the prothetic vowel is not.

On the other hand substratum influence has been envisaged and it has been pointed out that Hittite, Lycian, Lydian, Armenian and Turkish never have an *r* at the beginning of the word. However, it seems to me of importance that Greek does have ῥ-, albeit mainly from *sr-* or *ur-*. Cf. Frisk s.v. 2. ῥέζω and ῥυκάνη: he is surprised at the absence of a prothetic vowel. For in Asia Minor the substratum is believed to have made its effect felt down to Turkish. Further, the prothesis is not found only in front of *r*. Cf. p. 22.

IE 'prefixes' have also been envisaged. Evidently composition is meant here. There originated from PIE *sm-*, the zero grade of **sem-* (in Skt. *sám* 'together', Gr. εἷς), with the meaning 'one, the same (ὁμός)', in Greek *ᾱ-* which is found in *ἅπαξ* (Lat. *sem-* in *simplex*, Skt. *sa-* in *sānāman*) etc.; by breath dissimilation this became *ᾶ-* in *ἄλοχος ἄδελοφ(ε)ός*, from which *ᾶ-* was extended, *ἄκοιτις ἀγάστωρ ἀετέα*, Schwyzer, p. 433. Perhaps the Aeolian development of **sm-* is *ὀ-* in *ὀπατρος ὀτριχες* (pl.) *ὀγάστωρ ὀζυξ οἰέτεος*.

In all the words mentioned the meaning is clearly recognizable. This becomes more difficult where *ᾶ-* is supposed to have only an intensifying effect, the so-called '*a intensivum*'. Here the examples are fairly scarce and in my opinion highly dubious: *ἄσπερχές ἄστεμφής ἀπρίγδα ἀπτερέως ἀτενής ἀτραπός ἀφλοισμός ἀχανής*.

Another prefix is *ὀ-* 'close to, towards, with', for instance *ὀκέλλω ὄζος ὄσχη*. This is compared to the (unrelated ?) Skt. *ā, ā-gam-* 'to arrive'. As *ὄζος* is related to Goth. *asts*, PIE *o-* has been demonstrated, if at least the analysis **o-sd-*, parallel to *ni-sd-* in Lat. *nīdus*, OHG *nest*, is correct; that for **osd-* is, however, much less obvious. If Hitt. *hasduēir* 'branches' belongs to this, *o-* has originated from *h₃e-* or *h₃o-*. For *ὄσχη* 'vine-branch with grapes' the connection with *σχ-εῖν* is "semantisch alles andere als einleuchtend" (Frisk). Then only *ὀκέλλω* 'to run (a ship) aground, on shore' (Hdt.) would remain against *κέλλω* (Od. and Tragg.). The following are also mentioned as examples of this prefix: *ὄαρ ὄψον ὀτρύνω*, Schwyzer, p. 434.

For an element *ἐ-* there are no indications except in two words, *ἐχθές* (: *χθές*) and *ἐνερθε* (: *νερθε* etc.). In the case of the first the *ἐ-* is probably not the same as the prothetic vowel, since it stands in front of a group of consonants (of two occlusives, as against *muta cum liquida* in — exclusively — ὀφρῦς) and because the forms with and without *ἐ-* occur side by side. This *ἐ-* is, I think, the deictic particle that also occurs in *ἐκεῖ* (: *κεῖ*), etc.; see Frisk I 475. In the case of the second it is noticeable here that Armenian has no prothetic vowel, *nerk'in* "inférieur, der untere".

However, there are two general and overwhelming objections to the explanation of

the prothetic vowel by these 'prefixes'. Firstly, despite the fact that α , ϵ and \omicron could all have originated in this way, it still does not become clear why α , ϵ and \omicron appear as equal elements in the prothesis. The relation of the 'prefixes' mentioned is quite a different one.

The second point is that the elements discussed have an obvious significance, and so are or were functional elements. In $\acute{\alpha}$ -/ὀ- the meaning 'the same' is entirely clear, and the value of the deictic $\acute{\epsilon}$ - can likewise be demonstrated. Less clear are δ -(ὀκέλλω) and the 'a intensivum'. However, it should be remarked in this connection that the cases where it is thought that these are recognized are few in number (and should perhaps be explained in another way) and that these are precisely *not* the cases that are regarded as instances of prothetic vowel. It seems improbable that these vowels originated by composition with elements conveying a meaning. There is nothing to show that these words differ in meaning from related words in the other IE languages (ἔρεβος ἐρυθρός ἐλεύθερος ὀλίγος ὄνειδος ἀμέλγω). Moreover, these $\acute{\alpha}$ - and δ - are found before groups of consonants, occlusives and vowel (ὄαρ), while the prothetic vowel occurs mainly before sonants. It would further be quite a coincidence if three prefixes were to have become meaningless elements precisely in Greek — quite apart from the parallel with Armenian.

Two recent attempts at an explanation by means of 'prefixes' will be further discussed.

e. *The Prothetic Vowel from en/η according to Seiler*

In a penetrating article, KZ 75 (1958) 1-23, Seiler defends the old hypothesis that the prothetic vowel $\acute{\alpha}$ - stems from $*\eta$ -, which is the zero grade of $*en$ 'in'. On p. 2 he gives a survey of the etymologies that are based on this assumption: ἀσπάζομαι, Lagercrantz; ἰλέγω, Schulze; ἀκέομαι, Brugmann; ἀγείρω ἀγοστός, Solmsen; ἀκαρός, Schulze; ἄζα, Fraenkel; ἀπέλλα, Solmsen; ἀλία, Solmsen; ἀτενής, ἀχανής, ἀστεμφής Solmsen (who rejected it).

He takes as the criterion "enge und häufige Beziehung zu der 'Präpositio' ἐν" and considers as the clearest case:

$$\begin{aligned}\acute{\alpha}\kappa\alpha\rho\acute{o}\varsigma : \kappa\acute{\alpha}\rho\alpha &= \acute{\epsilon}\gamma\kappa\acute{\epsilon}\varphi\alpha\lambda\omicron\varsigma : \kappa\epsilon\varphi\alpha\lambda\acute{\eta} \\ \acute{\alpha}\kappa\alpha\rho\acute{o}\varsigma &= \acute{\epsilon}\gamma\kappa\alpha\rho\omicron\varsigma \text{ (cf. ἵγκρος).}\end{aligned}$$

Apart from the fact that ἀκαρός is known only from the *Etymologicum Magnum* it is the question whether the late ἔγκαρος (AP, Lyc.) is of much value to this problem. ἵγκρος (Hsch., Hdn.) with zero grade -κρ- seems rather to be an old formation, but is precisely without η .⁷

It is useful further to study the examples discussed by Seiler.

His solution may be correct for ἀτενής 'stretched, intense, intent'. As against

⁷ See Frisk s.v. As κάρᾱ contained a laryngeal, this must have disappeared in composition, $*en\text{-}k\acute{r}h_2\text{-}o\text{-} > *en\acute{k}ro\text{-}$; cf. p. 242.

the usual derivation of ἄ- from **sm-* with Ionic psilosis he states that the word cannot be demonstrated in Ionic (Hes., Pi., Tragg., Ar., Pl.). Parallels are ἔντονος (Hdt., E., Thuc.) 'intense, eager, vehement', young is ἐντενής (A.R. 2.933); ἐντείνω (Hom.) and Lat. *intentus*.

The situation is different with ἄλέγω. Explaining the word as **η-leg-* he tries to separate this root from that in λέγω, Lat. *lego* and connect it with Lat. *neglego*, Alb. *plog(ët)*. Szemerényi, *Syncope*, pp. 144-60, points out that Alb. *plog(ët)* 'lazy' cannot be taken with these on account of its meaning (from **legh-* 'to lie', Russ. *ležaka* 'lazy person', etc.). Nor does it do to separate *lego* from *neglego*. This by-way is all the more strange because Seiler's basis for the analysis of ἄλέγω as **η-leg-* is the use with ἐν, just as ἐν ... λέγω 'to reckon, count', in Alc. fr. 1.2 P ἐν καμοῦσιν ἄλέγω, Pi. O. 2.78 ἐν τοῖσιν ἄλέγονται beside Γ 188 δ 452 ἐν ... λέγω. On the strength of this comparison Seiler postulates "beachten, berücksichtigen" as the meaning and sees himself obliged to separate ἄλγος from the verb (a form which would be formally difficult to explain in that way: **ηlg-*?).

There are insurmountable objections to this interpretation. The chronology of the data indicates that ἄλέγω ἐν (Alc., Pi.) is more recent than the other ways of use (Hom.). After Homer ἄλέγω occurs only rarely (Alc., Simon., Pi., A. and the Hellenistic poetae docti, Call., A.R.). In fact the locution ἄλέγω ... ἐν is difficult to explain from Homeric use; the meaning would have to be completely blurred. The impression is rather gained that this is a scholarly reinterpretation (in fact ἐν ... λέγω with the "more learned" form ἄλέγω). Furthermore, Seiler's interpretation does not explain the frequent occurrence in negation (ten times against twice without in Homer, as Seiler himself remarks). The meaning 'trouble oneself about', on the other hand, calls for negative use; ἐμπάζομαι, which has the same meaning, occurs eight times out of ten in negation in Homer (the exceptions being α 271 ~ 305); cf. Οὐκαλέγων Γ 148, and νηλεγής, p. 99 f. Finally, the separation of ἄλγος is difficult to accept. Cf. p. 39 f.

His analysis of ἀλίγκιος as **η-link-*, in which **link-* is claimed to be a substantive for 'face', as in ἔναντα, is not convincing. The etymology with OCS *lice* 'face' would presuppose a form **linkom*, but then the connection with OIr. *lecco* 'cheek' (Berneker, *Slav. etym. Wb.*, p. 720) would have to be abandoned, which is not to be preferred. Nor do the speculations on the relation of ἐναλίγκιος to ἀλίγκιος inspire confidence (dative + *en* + *link-* as against *η* + *link-* + dative, on the strength of the fact that ἀλίγκιος occurs only before the dative (twice) and ἐναλίγκιος only (twenty times) after the dative).

The explanation of ἄμοτον as **η-mη-* is untenable, since it would presuppose *η* > α and *η* > ο in the same word; this seems to have escaped the author's notice. This demolishes the argument based on the identity of the two words in the formula ἄμοτον μεμαώς and the comparison with ἐμμεμαώς, which would thus demand the root **men-* in ἄμοτον. Leumann's explanation of ἐμμεμαώς (*Hom. W.*, pp. 52 f.) as the result of a false split seems more plausible. Seiler's objection that E 143 μεμαώς

against E 142 ἐμμεμῶς proves that the poet was aware of the difference in meaning is something that I cannot share.

There are supposed to be more examples, but the author only mentions ἀσπάζομαι — ἐννέπω, Lat. *insece*. This connection is not convincing (one would expect instead **η-sek*ⁿ- : **en-sk*ⁿ-); the one with σπάω (with prothetic ᾱ-), which Frisk still mentions, is even less probable.

Seiler has tried to give the formation a theoretical basis by comparison with the proclisis of prepositions. He asserts that besides loss of stress (Skt. *pariyāsi* against *pāri yasi*, Gr. ἐπὶ against ἔπι in ‘anastrophe’) the proclisis initially also led to weakening of vocalism. In this way he explains Skt. *api-* : *pi-*, Gr. πῑέζω; ξνι : *ni-*, Skt. *nīdā-*, Lat. *nīdus*, OHG *nest* < **ni-sd-*. The zero grade **η* is claimed to be preserved in Lith. *ĩ*, OCS *vъ-*.

This idea will be correct in principle, but little can be found in Greek that goes back to this phenomenon (for πῑέζω see Frisk, and cf. Kuiper, *Nasalpr.*, Index). On the strength of the above one would also expect parallels in Lithuanian (with *ĩ-*) and Old Church Slavonic (with *vъ-*).

It is clear that this cannot offer any explanation of the Greek prothetic vowel in general, since one would expect the same phenomenon in the other languages as well. Nor does one see why this ᾱ- should have spread secondarily in Greek. In addition the exact correspondence with Armenian cannot be explained in this way, where *η* would probably have appeared as *an-*. From the study of the material (*infra*) it further appears that *ε* and *ο* were about as frequent as *α*. This shows that *η* can present no solution for the problem of the prothetic vowel. Moreover, up to now there has only been one case for which the explanation proposed here can be made plausible (ᾱτενής). As, however, none of the other languages has such a formation elsewhere, this cannot be regarded as certain either.

To state that besides this explanation (and *α* privative (!) and copulative) another origin of the prothetic vowel remains possible, “von der wir vorläufig aber nichts wissen” (p. 3) — without even mentioning the laryngeal theory — is unscientific.

f. The Prothetic Vowel from *η* according to Winter

Winter too, after his treatise on the prothetic vowel that will be dealt with below, has endeavoured in *Lg.* 28 (1952) 186-91 to defend the origin of ᾱ- from *η*. He believes that he can reconstruct a PIE prefix *η-* ‘together with’ on the strength of material in Tocharian B. He finds here a prefix *a(n)-*, *e(n)-*, *on-*, the form of which is identical with the privative **η*, on the strength of which he postulates a PIE prefix *η*. In a manner not entirely clear to me he tries to determine the meaning, which he then puts on a par as a working hypothesis with that of Lat. *co(n)-*, Goth. *ga-*, etc. How he envisages the relation to **en* does not become any clearer by the remark “that this prefix *η-* was sometimes used simply as a variant of *en-*” (p. 190).

Although I cannot assess the Tocharian material, I am in no way convinced that his interpretation is the only possible one. But it seems to me to be fundamentally

incorrect to trace back this phenomenon that evidently does not even occur in Tocharian A to PIE. In general Tocharian is not a language which, when it stands alone, allows of far-reaching conclusions regarding PIE.

The above author believes that he can find PIE η in ἀγείρω, which he tries to support by the semantic parallel

ἀγείρω: Lat. 'colligere': Goth. 'galisan'
(ἄκαρος: ModG. 'Gehirn')

It may be asked whether $\alpha < \eta$ was also lengthened in composition, as in ὀμηγερέης ὀμήγηρις (Hom.). In any case this one example — whatever it may prove — is not enough for assuming such a prefix. For the rest the same objections apply here as were made to Seiler's theory.

g. *The Prothetic Vowel from Reduplication according to Winter*

As the last person before Adrados, Winter devoted a special study to the prothetic vowel (*Studien zum "prothetischen Vokal" im Griechischen* (1950); with critical historical survey pp. 1-9). He regards the explanation of the prothetic vowel before sonants "als Ausdruck der Stimmhaftigkeit oder als Zeichen eines verfrühten Einsetzens des Stimmtens" (p. 2) as adequate and devotes no further attention to this group. He bases his own theory on the difference in length of the vowel of the root syllable as in Φῶραι Φηραι: Ἀφᾶρεϋς and concludes that there must have been vowel shortening in 'prefixed' forms. It suffices — to employ his own method of criticism (of Wood, p. 6) — to cite his solution (p. 42): "Das Präfix vor gekürzter Wurzelsilbe ist entstanden aus einer doppelt dissimilierten Reduplikation der Wurzelsilbe". He summarizes this in the following scheme:

*kal-:	*kal-k(a)l-	>	*al-k(a)l-	>	1. *a η -k(a)l-
					2. *ai-k(a)l-
					3a. *aH-k(a)l-
					3b. *a-k(a)l-
*skal-:	*ka-sk(a)l-	>			4. *a-sk(a)l-

Winter makes the following comment on this: "Dieses Unsicherheitsmoment, das jede Aussage 'Aus x muss y werden' unmöglich macht und nur eine Formulierung 'Wenn x nicht x bleibt, so kann aus x ein y oder y₁ oder y₂ usw. werden' erlaubt, und das auf den ersten Blick einen schweren Nachteil zu erhalten scheint, gibt in Wirklichkeit eine Lösungsmöglichkeit an die Hand".

I am not yet further than that "at first sight". The greatest objection — apart of course from the fundamental point that the "Ausnahmslosigkeit der Lautgesetze" is ignored here — is the dissimilatory loss of the initial consonant of the reduplication syllable. The reference (p. 44) to Schwyzler, p. 260, is not enough; there cases of a different kind are mostly concerned, which moreover are very rare. It is furthermore not clear how it happens that type 3b (and 4), which is the least probable, occurs the

most. It should be borne in mind that the type $\pi\alpha\phi\lambda\acute{\alpha}\zeta\omega$ $\kappa\alpha\chi\lambda\acute{\alpha}\zeta\omega$, where thus the reduplicated consonant is still preserved, is in itself rare; Schwyzer, p. 647. Furthermore (the criticism is already to be found in Adrados, p. 326), the vocalism of the root in reduplicated and unreduplicated forms is usually the same ($\acute{\alpha}\sigma\tau\alpha\chi\upsilon\varsigma$: $\sigma\acute{\tau}\alpha\chi\upsilon\varsigma$), while Winter's theory presupposes a reduced vocalism (not necessarily, although in that case his solution has nothing more to do with his starting-point). In addition one would expect the same timbre in prefix and root, which leaves many cases unexplained. Finally, many of his etymologies are disputable. He states "die einigermaßen sicheren Fälle ... überhaupt nicht und stellt dafür möglichst unsichere Beispiele", Risch, *Glotta* 33 (1954) 209.

To explain $\acute{\alpha}$ - before a root with e -vocalism he calls in the aid of the laryngeal theory, though in a very strange manner: in the dissimilation of the consonants, besides the fact that the consonant can disappear entirely, a laryngeal can also come into being (in type 3b therefore $He-CeC < Ce(C)-CeC?$), which colours the e to a (p. 47); he thus starts here from the idea that all laryngeals colour to a or that only the a -colouring laryngeal could occur. The same idea may be found in the discussion of type 3a (p. 42): Skt. $j\ddot{a}garti < *geH-gor- < *ger-gor-$. "Wichtig ist jedenfalls, dass es nicht absurd ist, mit einem Laryngal als Dissimilationsprodukt zu rechnen". However, it has not been demonstrated that this is not absurd, for this idea nowhere finds support and is by no means self-apparent (unlike the types $\pi\alpha\mu\phi\alpha\lambda\acute{\alpha}\omega$ and $\pi\alpha\iota\pi\acute{\alpha}\lambda\eta$).

Winter's thesis cannot therefore be taken seriously either as a contribution to the solution of the problem of the prothetic vowel or as criticism of the laryngeal theory.

h. Adrados' Theory

Building on his theory on the reduced vowels (*Emerita* 26 (1958) 249-309 and 27 (1959) 155-62), Adrados discusses in *Emerita* 27 (1959) 323-48 the cases with Hitt. $hu-$, $hu-w-$, which therefore definitely had laryngeal, and proceeds from

	PIE	$H\mu$	Hu	beside	$^{\circ}H\mu$	$^{\circ}Hu$
which developed	Hitt.	$hw-$	$hu-$		$hw-$	$hu-$
	Gr.	$f-$	$v-$		$\acute{\alpha}f-$	$\acute{\alpha}v-$
	Lat.	$u-$	$u-$		$au-$	$au-$

The laryngeal is not essential here, as he also expressly states: the 'prop-vowel' ($^{\circ}$) can equally well develop before other consonants or before sonants (p. 329, 331). Here lies the weakness (and the strength) of this theory, which in fact is therefore that of Meillet (see p. 23 f.). Every unexpected initial vowel can be "explained" in this way. For the general objections to the theory of the 'prop-vowels' see p. 23 f.

Adrados has again summarized his views in *Estudios*, pp. 31-46. His starting-point makes discussion practically impossible; cf. p. xiv: "el concepto neogramático de ley fonética no es adaptable a nuestro material". See the criticism of Cardona, *Lg.* 39 (1963) 91-100.

His material is too disputable to be discussed here in detail. His first etymon (p. 37) may serve as an example: it connects ἕστια, ἄεσα (ιαύω < **Hi̯^oHusō*), ὄρος ὠρέω (should read ὠτρέω) 'dormir' (con otro vocalismo de la raíz), and φάστυ (< **Hu̯^ostu*).

The reconstructed °*Hu-* cannot explain the prothetic vowel. The 'prop-vowel' develops into a full vowel (as always and everywhere), °*Hu-* > *aHu-*, so that one would expect *āu-*. Moreover, though this is less essential, one would expect that the 'prop-vowel' would acquire the timbre of the laryngeal, but Adrados posits that this always became *a*. He tries to explain these two phenomena as follows (p. 43, paraphrased): there is a chronological difference between the development of °*H* and *eH* which explains why they did not coincide: when °*H* becomes *aH* *H* falls, while the full vowel has the time ("tiene tiempo") to absorb the laryngeal, as a result of which it is lengthened and assimilated. It is not clear to me what "tiene tiempo" means and why it is the case the one time but not the other. The sign ° is the symbol for a non-clear vowel that develops in a certain milieu and becomes a full vowel and here too, therefore, it is true to say that *VHC* becomes *VC*. The development °*H* > *a* before consonant is a paper construction that cannot reproduce any reality. What Adrados proposes in fact amounts to vocalization of the laryngeal. It is therefore not possible to connect the theory of the 'prop-vowels' with the laryngeal theory to explain the prothetic vowel.

It is evident that the vocalic segment that developed before the laryngeal underwent the influence of this laryngeal rather than an original full vowel. According to Adrados the *a* is caused by the "abertura" of the laryngeal. Nevertheless the stem vowel was sometimes able to exert influence: ἔεσση (with ε under the influence of the stem vowel ε) beside Cret. ἄεσσα. This difference is not further stipulated and is therefore unusable. This would explain why ε occurred only before stem vowel *e*, while with a stem vowel *o* the prothetic vowel was "forzosamente" *a*. A glance at the survey of the material demonstrates, however, that this is not the case; p. 68f (of this book).

Furthermore Adrados is of the opinion that *H* could always (in all languages) give aspiration, e.g. ἔσπερος, ὕδωρ. For these words, laryngeal is, however, highly uncertain. It will not do to reply that for many prothetic vowels, too, the origin from laryngeal cannot be further demonstrated. Here in my opinion the principle can be demonstrated, but everything is still uncertain with reference to the supposed aspiration. For the rest, it is also true for Adrados here that "nunca se trata de un hecho regular".

i. *The Pelasgian Theory*

Georgiev, *Vorgriechische Sprachwissenschaft* (1941), p. 115, has tried to explain the prothetic vowel from Pelasgian, the IE language believed to have been spoken in Greece before the advent of the Greeks. This idea was most recently defended by Carnoy, *Lingua* 7 (1957) 242-53. They believe that the prothetic vowel *a* must be partly explained by assuming that the word in question has been derived from

Pelasgian, in which this *a* was formed from the PIE *o-*, the same as is found in (genuine Greek) ὀκέλλω.

The article contains a large series of words that are said to be Pelasgian, for which a PIE basic form is (re)constructed, but practically without any evidence, e.g. (p. 246): “Ἀμυκος guettait les voyageurs pour les attaquer (i.e. *meug-* ‘guetter, attaquer’ — *g > k*)”. Not the slightest value can be attached to this method of argumentation.

In itself, once the theory of Pelasgian has been accepted, the idea is of course not impossible. However, the words would have to be etymologically recognizable as non inherited loan-words. Anyone who states that a certain Greek word is borrowed from Pelasgian will have to give proof of this, which, of course, is practically only possible if the word has a reliable IE etymology. However, for the words with which we are concerned here and which have such an etymology there is no reason to assume the detour via Pelasgian; see the collection of material pp. 32-69. Only for ἀβροῦτες· ὄφρυς. Μακεδόνες Hsch. can borrowing be made plausible — insofar as one can speak of borrowing here — for if ἀβροῦτες is related to Skt. *bhrūh*, one would expect φ in Greek (such as ὄφρυς in fact has). However, there is little reason to speak of Pelasgian here. In this way, therefore, the problem of prothesis as such is not solved. For the rest the same general objections apply as to other theories which were discussed above.

j. *Explanation by Means of the Laryngeal Theory*

The attempts at an explanation discussed so far are therefore fundamentally incorrect. For completeness' sake mention will also be made of Lemaire-De Vaere, *Album Baur*, 1948 II, p. 31-9. This author accepts the laryngealistic explanation but tries to tie it in with Sievers' anlaut intensification (*IF* 42.193 ff., 43.1 ff. and 143 ff.), which is claimed to have been caused by the disappearance of vowels. What our conception must be of this is not made clear. The augment is also said to have its origin in a laryngeal (which thus formed part of the stem!). The author threatens to involve reduplication in this as well. It is to be hoped that this attempt will be abandoned. The article can safely be forgotten.

It was Kuryłowicz, *Eos* 1927, who explained the prothetic vowel by the PIE laryngeal, e.g. **a₂leg-* > ἀλέγ-ω. He started from the idea that every PIE root began with a consonant, so that therefore the “thème II” sometimes gave a laryngeal before consonant, **a₂elg-/a₂leg-*. Although I consider this starting-point incorrect (p. 90 ff.), it cannot be denied that the laryngeal could also function as the first phoneme of a PIE root. See for this ablaut p. 89 f.

The arguments supporting this idea will be discussed later; first we should see what conclusions the material of the prothetic vowel in Greek permits of.

2. THE MATERIAL FOR THE PROTHETIC VOWEL

The material for the prothetic vowel will be examined here on a basis of Frisk's etymological dictionary. First of all the four sonants are dealt with, in the order ρ λ μ ν, each preceded by the three vowels α, ε, ο (ι and υ are after all not of importance here, see p. 19), in the order αρ-, ερ-, ορ-, αλ-, ελ-, ολ-, etc. Next all other words with α-, ε-, ο- are dealt with, with the exception of αϝ-, εϝ-, οϝ-, which are discussed separately at the end. The words will be divided into six groups, viz.:

- I. Words which are dealt with under other headwords;
- II. Words whose etymology gives no reason to speak of a prothetic vowel;
- III. Words which are of non-Indo-European origin;
- IV. Words which have no etymology at all;
- V. Words of which the proposed etyma are too unreliable to admit of further conclusions;
- VI. Words which may be of importance to the question of the prothetic vowel.

Needless to say, the limits between these categories cannot be sharply drawn. Words which in Frisk are simply referred to another headword have not been included here (e.g. ἄγαμαι s. ἀγα-), together with a number of non-Greek proper names which do not belong in a Greek etymological dictionary (Ἀχαιμένης). The designation αϝ εϝ οϝ means that the words are dealt with under the words with αϝ-, etc. The words of the sixth group are briefly discussed; the conclusions follow at the end of each section and of the whole collection of material. The perfects with Attic reduplication, of which the first vowel is in essence identical with the prothetic vowel, are here mentioned only; they are dealt with in detail on pp. 113 ff. In the discussion of the separate forms the reconstructed form with laryngeal has usually already been given where this seemed probable or possible. This is simply for clarity's sake; the argumentation comes later.

a. αρ-

I. (elsewhere) Ἀράτμος s.v. ἀρώ; ἀργαλέος s.v. ἄλγος; ἄργεμον ἀργής ἀργιλιπής ἄργιλλος ἄργυρος ἄργυφος s.v. ἀργός (1.); ἀρείων ἀρετή s.v. ἀρέσκω; ἄρθρον s.v. ἀραρίσκω; ἀριδείκετος ἀρίζηλος s.v. ἀρι-; ἄριστος s.v. ἀρέσκω; 1. ἄρμα ἄρμενα ἄρμόζω ἄρμονία s.v. ἀραρίσκω; ἀρνειός s.v. ἄρσην; ἄροτρον ἄρουρα s.v. ἀρώ; ἀρπάζω s.v. ἀρπή; ἀρπαλέος s.v. ἄλπ(ν)ιστος; ἀρτάω s.v. 2. αἰίρω; ἀρτέομαι s.v. ἀραρίσκω; 1. ἀρτήρ s.v. 1. αἰίρω; ἀρτηρία s.v. 2. αἰίρω; ἄρτι ἀρτύω s.v. ἀραρίσκω; ἀρχή s.v. ἄρχω.

II. (no proth. vowel) 2. ἄργός (α-priv.), ἀρήν (F-), ἄρκυς (Slav. *orkytā; IE?), ἄρπη (s-), ἄρρατος (α-priv.), 1. ἀρύω (F-).

III. (non-IE) ἀρασχάδες, ἀρβύλη, ἄρμαλά, ἄρμωλα, Ἀρποκράτης, ἀρράβη, ἀρ(ρ)-αβών, ἄρριχος, ἀρσενικόν, ἀρτάβη, ἄρτος, ἀρύβαλλος.

IV. (no etym.) ἀρά, ἄραβος, ἄραδος, ἀράζω, ἀραιός, ἀράκη, ἄρακος, ἀράχιδνα,

ἄρβηλος, ἄρβιννη, Ἀργαδεῖς, Ἀργεῖφόντης, ἄργελλα, ἀργέλοφοι, Ἄργος, ἄρδα, ἄρη, 1.2. ἄρίς, ἀρίσαρον, ἀριστερός, ἀρκάνη, ἄρκευθος, 2. ἄρμα, ἄρμαλιά, ἄροκλον, ἄρον, ἀρπεδής, ἀρπεδόνη, ἄρπεζα, ἀρπίς, ἄρπυς, ἀρρηγής, ἀρρηφόρος, ἄρσεα, ἄρταμος, ἀρτεμής, Ἄρτεμις, ἀρτέμων, 2. ἀρτήρ, ἀρτίαλα, 2. ἀρχός, ἄρχω, ἄρωμα.

V. (unreliable) ἄρδης, ἀρειή (Skt. *irasyā*), ἀρνευτήρ (ἀρνειός), ἄρυα (OCS *orěchъ*, Lith. *riešas*? and κάρυα; IE?), 2. ἄρύω.

VI. ἄρα. The Baltic forms, which are generally considered to be cognate, point to **or* (Lith. *aĩ*, Latv. *ar*) and **r̥* (Lith. *iĩ*, Latv. *ir*). The existence of a Cypriot form ἔρ (ἔρ'), which was generally assumed on the strength of data from Hesychius, is contested on good grounds by Latte in his edition (II (1966), p. 816). It is therefore better to regard the existence of this form as very uncertain.

Laryngeal at the beginning of the word is possible if one starts from **or/r̥*: **h₂or/h₂r̥*; *h₂* on account of ἄρα. However, the form ῥα makes **h₂r̥* improbable here (it would probably give ἄρα). If Cypr. ἔρ is a reality (*supra*), laryngeal is out of the question. Laryngeal at the end of the word is also improbable, since one would have expected **ir*, ἄρ in Lithuanian. It seems to me that ἄρα is secondary and that ἄρ and ῥα are older. The last two forms are different realizations of **r̥*, depending on the place in the sentence; this view is shared by Schwyzler, p. 342 *Zus.*, and Grammont, *Phonétique du grec ancien* (1948), p. 285 f. In my opinion one can expect the following developments *a priori*:

$C\bar{r}C > \rho\alpha$ (cf. δατός)
 $C\bar{r}V > \alpha\rho$
 $V\bar{r}C > \rho\alpha$
 $V\bar{r}V > \rho'$

It never occurs at the beginning of the sentence. At the end one expects:

$C\bar{r} > \alpha\rho$ (cf. ἦπαρ)
 $V\bar{r} > \rho\alpha$

It seems that both elements were fused in ἄρα; possibly the -α here came into being under the influence of that of ἄνα, πάρα, κάτω (assuming that it was older there; cf. Schwyzler, p. 622.8, and p. 152 ff. of this book). Grammont expects ῥα after a single consonant and ἄρ after a double consonant (or long vowel + consonant). Hoenigswald, *Lg.* 29 (1953) 288-90, is of the opinion that the facts support Grammont's proposition: he counts only eight times ῥα after 'heavy syllable' (e.g. A 430 τήν ῥα)⁸ out of the 91 cases in A-M, and not once out of 95 ῥ' (though he does after long diphthongs). Perhaps γάρ < γε ἄρ dates from the time when ἄρα did not yet exist: this would eliminate the objection to this explanation of γάρ (Denniston, p. 56,

⁸ Τήν ῥα may itself have been created on the example of τὸν ῥα, which is not at variance with Grammont's rule.

Humbert, p. 386), viz. that no *γάρα is found. (Incidentally, Hom. γ'άρ' could be represented not only as γάρ, but also as γάρ'; γέ ῥα does not seem to occur.) The same form is presupposed by αὐτάρ < αὐτε ἄρ.

The connection with ἀραρεῖν, ἀρπάζω has no basis. (If these forms began with h_2 , it is impossible.)

That ἀράσσω and ῥάττω belong together is improbable, since ῥάττω began with μ - (καταρράκτης, etc.), while for ἀράσσω there is no evidence for φ - (ἀπ-, κατ-). Apart from this φαρχ-, φῶρχ- (* $\mu_e r h_2 gh$ -, * $\mu_i h_2 gh$ -) is conceivable; Frisk s.v. ῥάσσω.

ἀράχνη, Lat. *aráneus* < **arak-sn*-. If OE *renge*, *rynge* 'spider, spider's web' goes back to **ruznia* < **raknia* (Walde, WH s.v. *araneus*), a * $\epsilon r h_2 k$ - > *arak*- is conceivable; for Greek and Latin perhaps * $h_2 er h_2$ -. The word may, however, be of foreign origin.

ἀργός beside ἀργι- must, having regard to Ved. *ṛjrá* : *ṛji*-, go back to **arγ-ρός*. Ved. *ṛjrá*- points to * $\gamma \hat{g}$ -*ró*-, Hitt. *ḫarkis* 'white, bright', gives a laryngeal, so that * $h_2 \gamma \hat{g}$ -*ró*- (beside **h_2 er ḡuro*- in ἄργυρος, Skt. *árjuna*-) must have been the original form. One cannot speak of prothetic vowel, since ἀρ- is based on *r*.

The development $h_2 \gamma \hat{g}$ - > ἀργ- is interesting. It demonstrates that in the group *HR̥C*- the vocalic element appeared before the sonant (as when the vocalic sonant is at the beginning of the word). In this structure (*CR̥C*-) one might also have expected a development *R̥* > *RV*, with later vocalization of the laryngeal, i.e. of * $h_2 \gamma \hat{g}$ - > **ararγ*- (and with h_1 * $\epsilon p e \gamma$ - and h_3 * $\delta p o \gamma$ -). However, there is no evidence of such a development.

If ἄρδω, as * \hat{a} -*αρδω*, is related to *ραίνω*, one would expect **ἄρραίνω* there (ἄ-*ρρα*-; if not * \hat{u} -*ραίνω* < **hur*-). For *ραίνω* (connected with *ραθάμιγξ* *ράσσετε* *ἑρράδαται* Hom.; non-IE) see Kuiper, *Μνήμης χάριν*, p. 216, with n. 23. The analysis **αφαρδω* has no support at all.

That Ἀρέθουσα is connected with ἀρέσκω is not evident semantically. The analysis * $h_2 redh$ - is possible, but names like *Radantia* are not a sufficient basis for IE **redh*-, since they do not convey the impression of being of IE origin; see for instance the survey in Krahe, *Sprache u. Vorz.*, p. 58.

ἀρέσκω has a disyllabic root; as ἀρέσαι presupposes *e*-vocalism, * $h_2 er h_1$ - is probable. Forms with * $h_2 re h_1$ -, Gr. **ἀρη*-, elsewhere **rē*-, are not known.

ἀρήγω 'aid, succour', cannot be connected with OS *rōkian* 'take care of', since the words related to the latter point to another meaning (cf. Falk-Torp, *Norw.-dän. etym. Wb.*, p. 347 and *idem*, *Sprachschatz*, p. 333).

ἀρι-, ἐρι- cannot have had a laryngeal at the beginning, since a laryngeal would have determined the quality of the vocalism; see p. 91.

ἀριθμός beside Germ. and Celt. *rīm* 'series, reckoning, number' may go back to * $h_2 ri$ -, but * $h_2 eri$ - is also possible.

ἀριστον < **αιρι*- beside Goth. *air*, OIcel. *ār* 'early' < **aṛeri*-, Av. *ayarə* 'day' suggests * $h_2 ei er$ -, ἡερι- by metrical lengthening.

The connection of ἀρκέω with Hitt. *ḫark*- 'hold, have' is just as weak as that

with Lith. *rāktas* 'key', OHG *rigil* 'bolt' (**h₂erk-/h₂rek-*?). If Lat. *arceo* belongs here, this points to **h₂erk-* or **h₂rk-*.

ἄρκτος. Only Hitt. *hartagga* 'predator' could point to laryngeal, but the connection is far from certain; *hartagga* may be non-IE.

ἀρνέομαι, Arm. *uranam* 'deny' may point to *ar-/ōr-* (**h₂er-/h₂ōr-*; or *r/ōr*?); however, there is insufficient certainty here.

For ἀρνυμαι Hitt. *arnuzi* 'bring, take away' (Av. *arənav-* 'permit') would not point to laryngeal, but semantically the similarity is not great. Arm. *arnum* 'take' does not permit of further conclusions either.

ἀρώ ἀρόσαι is from the stem **h₂erh₃-*, see p. 129.

Ἄρπυια. Szemerényi, *Syncopé*, p. 203-14, goes into details on this. The form Ἄρπυια occurs on a vase from Aegina (VI^a) and *EM* ἄρπυιαῖ; it can be read everywhere in Homer (Π 150 α 241 = ξ 371 υ 77). The word has been associated with ἀνῃρείψαντο (Y 234 δ 727 α 241 = ξ 371 υ 77), which one prefers to read as **ἀνῃρέψαντο* on the authority of Pi. *Paeon* 6.136 and Hsch. ἀνερειψάμενοι· ἀναρπάσαντες. The manuscripts give ει unanimously for Homer. Hes. *Th.* 990 has ἀναρειαμένη, with νν.11. ἀναρειαμένη and ἀνερειαμένη. As the last two may be based on the influence of the Homeric tradition, the first would be backing for the change into ἀνῃρέψαντο. In that case the origin of the ι is unclear (according to ἡρεια Pi., Hdt. ?). On the other hand it would be understandable if the word were identified with ἐρέπτομαι (without v.l. in Hom., B 776 E 196 Θ 564 Φ 204 ι 97 τ 553). The timbre of the initial phoneme of ἀνῃρείψαντο is not known. In favour of α are Hes. *Th.* 990 ἀναρε(ι)ψαμένη beside ἀνερειαμένη. Pi. *Paeon* 6.136 is of no value, as the syllable in question is a conjecture, ἀ[να]ρέψατο. The parallelism ἄρπυια ἀνῃρείψαντο (α 241 = ξ 371 υ 77), ἀνῃρείψαντο θύελλαι (δ 727), ἀναρπάξασα θύελλα (δ 515) suggests a relationship between ἀνῃρείψαντο (from **αρει-*), Ἄρπυια/Ἄρπυια and ἀρπάζω. It is in itself conceivable that we are concerned here with a recent "etymologizing" explanation, but the very form Ἄρπυια ἀνῃρείψαντο indicates rather that an old *figura etymologica* (ἄρπυια ἀνῃρέψαντο, Fick, *Od.*, p. 2) forms the basis. In that case the aspiration of ἀρπάζω remains unexplained (after αἰρέω εἶλον?).⁹ It is improbable that ἐρέπτομαι is assimilated from **ἀρει-* (Szemerényi, p. 205); this word should be kept separate. The parallelism with ὀρόγυια (v. p. 37) suggests a paradigmatic ablaut **ἀρέπυια* **ἀρπυιάς* here (Kretschmer, *Vaseninsch.*, p. 208 f.). This would indicate that this is an old IE word. There is no reason to start from a perfect participle. The original forms will therefore have been **h₂répusih₂* **h₂rpusiéh₂s*. See Add

ἄρσην: ἔρσην excludes laryngeal; see p. 91.

Conclusion. — Prothetic vowel from laryngeal is possible for ἀρτιθμός, ἀρήγω, Ἀρέθουσα and Ἄρπυια. Ἀργός and ἄραρα (ἀραρίσκω), ἀρηρομένη (ἀρώ) and ἀρέσκω also had initial laryngeal, but here one does not speak of a prothetic vowel.

⁹ Cf. the aspiration of ἀμαρτάνω, p. 109f.

b. ερ-

I. (elsewhere) ἔργω s.v. εἶργω (εF); ἐρεεῖνω, 1. ἐρέω s.v. ἐρευνάω; ἐρι- s.v. ἀρι-; ἐρίηρες ἐριούνης s.v. ἐρι-; ἔρση (εF); ἐρυθρός s.v. ἐρεύθω; ἐρύκω s.v. ἔρυμαι; ἐρυσίβη (?), ἐρυσίπελας s.v. ἐρεύθω.

II. (no proth. vowel) ἔρα, ἔργον (F-), ἔρδω (F-), ἔριφος (OIr. *heirp* < **erbhī*?), ἔρκος (s-), ἔρπω (s-), ἔρρω (F-).

III. none.

IV. (no etym.) ἔρανος (connected neither with ἔροτις, nor with ἐορτή), ἐρεσ-χηλέω, ἐρίθακτις, ἐρίθιος, ἐρίνεός, ἐρινος, ἐρίσφηλος, Ἐριχθόνιος, ἐριώλη, ἐρμηνεύς, ἔροτις (v. ἔρανος *supra*), ἔρραος, ἔρρεντί, Ἐρρος, ἔρσαι, ἔρφος, ἔρχατος.

V. (unreliable) ἔραμαι (*īrsyati*), ἐρέας, ἐρείκη (Centr. Eur.?), ἐρητύω (connected with ἐρώη?), ἔρις, ἔρμα, Ἐρμής, Ἐρυσίχθων, ἔρχομαι, ἐρφιδίος, ἐρωτάω.

VI. ἐρέβινθος, Lat. *ervum*, OHG *araweiz*, do not point to a prothetic vowel. It is probably of non-IE origin.

ἔρεβος, Arm. *erek* as against Goth. *riqis* admits of **h₁reg^u*-.

ἐρέθω allows of an analysis **h₁redh*- just as much as of the non-committal connection with ὄρνυμι (with a root **h₃er*-).

ἐρείδω can be interpreted as **h₁reid*-; cf. ἐρηρέδαται p. 119.

ἐρείκω as against Skt. *likhāti*, Lith. *riekiū*; cf. ἐρήριγμα (p. 118), but ἦρικε (P 295); **h₁reik*-?

ἐρείπω as against Lat. *ripa*, ON *rifa* (see Frisk); cf. ἐρήριπε (Ξ 55); **h₁reip*-?

ἐρέπτομαι as against Lith. *ap-rēpti* 'grasp', Alb. *rjep*- 'rob', Lat. *rapio*; **h₁rep*-.

ἐρέτης as against Lat. *rēmus*, Skt. *aritra*-; stem **h₁erh₁*-, cf. p. 132.

1. ἐρεύγομαι as against Lith. *riaugmi*, Russ. *rygátb*, Lat. *ē-rūgo*, etc., **h₁reug*-. Arm. *orcam* < **orucam*.

2. ἐρεύγομαι, Lat. *rūgio*, OCS *rykati* (with **k*); **h₁reug*-; may be identical with the preceding one.

ἐρεύθω beside OE *rēodan* 'paint red', etc., and ἐρυθρός, Skt. *rudhirá*-, etc., gives **h₁reudh*-.

ἐρευνάω beside OIcel. *raun* 'attempt, examination' < **roun-ā* renders **h₁reu-n*- possible.

ἐρέφω beside OHG *hirni-reba* 'skull' may have **h₁rebh*-. Ὀροφή, etc., must then replace *ἐροφή by assimilation, Schwyzler, p. 255.

ἐρέχθω has a prothetic vowel if connected with Skt. *rákṣas*- 'destruction'.

ἐρήμος. The link with Lat. *rārus*, *rēte* seems very unreliable to me. However, should it be correct, then Lat. *rē*- may go back to **h₁reh₁*-, *rā*- to **h₁r^hh₁*-, Gr. ἐρη- to each of these two forms. For **h₁r^hh₁*- > ἐρη- see p. 95. Goth. *arms* could also belong here as **h₁orh₁m*-.

Ἐρῖνύς connected with Skt. *rīsyati* 'suffer harm' could be **h₁ris*-, but this remains very uncertain.

ἔρνος perhaps cognate with ὄρνυμι, which has a stem **h₃er*-; ἐρ- is unclear, see p. 38. Cf. Norw. *run(n)a* 'branch'.

ἐρύμαι. An interchange $\text{feru-}/\text{fr}\bar{\text{u-}}$ is unexplained (see p. 205). Ruijgh, *Etudes*, p. 358 n. 32, wonders whether $\text{feru-}/\text{fr}\bar{\text{u-}}$ (instead of $^*\text{fr}\bar{\text{u-}}$) developed on the analogy of $\text{ker}\bar{\text{a-}}/\text{kr}\bar{\text{u-}}$ ($<^*\text{ker}\bar{h}_2/\text{kr}\bar{h}_2-$). It is not necessary on the strength of the present εἶρύομαι to assume a prothetic vowel $\bar{\text{e-feru-}}$ (Frisk, cf. *idem*, I 568, top: from the perfect or *metri causa*).

ἐρύω. To εἶρύομαι the same applies as was stated above.

ἐρωή. Both the Germanic words going back to $^*\text{r}\bar{\text{e}}\text{s-o-}$, $-\bar{\text{a}}$, and those going back to $^*\text{r}\bar{\text{e}}\bar{\text{u}}\bar{\text{a}}$, $^*\text{r}\bar{\text{o}}\bar{\text{u}}\bar{\text{a}}$, leave a prothetic vowel.

Conclusion. — There is a large group that allows of an analysis *Hre(R)T-*: ἔρεβος ἐρέπτομαι ἐρέφω ἐρέχθω and ἐρείδω ἐρείκω ἐρείπω ἐρεύγομαι ἐρεύθω ἐρευνάω ἐρωή. Ἐρέθω and ἐρήμος are uncertain. Ἐρείδω (ἐρηρέδαται), ἐρείπω (ἐρήριπε), ἐρέτης (*rēmus*) have support for laryngeal.

c. ορ-

I. (elsewhere) ὀραυγέομαι s.v. ὀράω; ὄργανον ὄργια s.v. ἔργω; ὄργια s.v. ὀρέγω; ὀρέοντο s.v. ὀρνυμι; ὀρεσκῶς s.v. ὄρος; ὀρκάνη ὄρκος s.v. ἔρκος; ὄρμενος s.v. ὀρνυμι; 1. ὄρμος s.v. εἶρω; ὄροβος s.v. ἐρέβινθος; ὀροθύνω s.v. ἐρέθω; ὄρος s.v. ὀρνυμι ($^*\text{h}_3\text{er-os}$, p. 131).

II. (no proth. vowel) ὀράω (F-), ὀργή (*ūrjā*, μ -, cf. p. 241), ὀρθός (*ūrdhvā*-, μ -, cf. p. 241), ὀρθρός (F-), ὀρμή (s-), ὀρόδαμνος (Fro-?), ὀρός (Lat. *serum*), ὄρρος (OIr. *err* $<^*\text{ersā}$), ὄρτυξ (F-), ὀρφανός ($^*\text{orbh-}$), ὀρφῶς.

III. (non-IE) ὀρεσχάς, ὀρίγανον, ὀρίνδης, ὀρυζα.

IV. (no etym.) ὀρδημα, ὀρε(ι)ᾶνες, ὄρκος, ὄρμινον, 2. ὄρμος, ὀρόντιον, ὀρπηξ, ὀρρωδέω (ἄρρ-), ὀρσολόπος, ὀρταλῖς, 1.2. ὀρύα, ὀρυμαγδός, ὄρχιλος, ὄρχος.

V. (unreliable) ὀρεύς (ὄρος?), ὀρθαγορίσκος, ὄρος, ὀρσοθύρη (ὄρρος?), ὄρφη, ὄρχαμος, ὀρχέομαι (ὀρνυμι, ἔρχομαι).

VI. ὀρέγω beside *rego*, Skt. *ṛjati* (*irajyāti*, see p. 236 f.), etc.; $^*\text{h}_3\text{reg-}$. A detailed treatment may be found in Szemerényi, *Syncopé*, pp. 229-38. Derived from ὀρέγω is ὀργυια ὀρόγυια, 'length of the outstretched arms, fathom'. This connection seems evident. Ὀρέγω is often linked with χεῖρ in Homer. Semantic parallels in Szemerényi. He regards the form as a perfect participle, $^*\bar{\omega}\text{ρογ-υια}$, by syncope $^*\bar{\omega}\text{ργυια} > \bar{\omega}\text{ργυια}$. He thus regards the Attic reduplication ὀρωρέχεται (II.) as recent. The form ὀρόγυια (Sappho, Pi., Ar., inscr.) must then have been the result of anaptyxis, for $^*\bar{\omega}\text{ρογυια}$ would not have become ὀρόγυια. This is, of course, an entirely arbitrary supposition. In itself it does not appear as if ὀρόγυια is recent. Anaptyxis forms like *ἡερεμες* are rare and hardly ever occur in literary language (Schwyzer, p. 278), certainly not in such different authors. Homer has only ὄσον τ' ὄργυι' Ψ 327 ι 325 κ 167 and further ἐννεόργυιος λ 312. The derivation from $^*\bar{\omega}\text{ρογ-}$ is therefore improbable. As in the case of ἄρεπυια/ἄρπυια original paradigmatic ablaut is obvious for ὀρόγυια/ὄργυια, i.e. $^*\text{h}_3\text{r}\bar{\text{o}}\bar{\text{g}}\text{-us-ih}_2$ $^*\text{h}_3\text{r}\bar{\text{g}}\text{-us-ih}_2\text{-s} > \bar{\omega}\text{ρόγυια}$ $^*\bar{\omega}\text{ργυια}\bar{\text{s}}$, as J. Schmidt, *KZ* 32 (1893) 348 f. supposed. There is no reason to assume that the form goes back to a perfect.

Nor is Szemerényi's explanation of -ωρυγος in διώρυγα, etc. (ἐνόδια and δίκτυα)

a convincing one. This form occurs only in Xen. *Cyn.* 2.5 and on two inscriptions. This technical term may be of great antiquity (by nature the fathom is a measure of cordage; cf. κ 167 πείσμα). A development *ῥογυ(ι)ος > *ῥογυος > *ῥογος, such as Szemerényi suggests, is highly improbable. Apart from the disappearance of υι, one does find assimilation ε-υ > ο-υ, but never > υ-υ (Schwyzer, p. 255); there is rather a tendency towards dissimilation υ-υ > ο-υ (*ibid.*, p. 258). Comparing Lejeune, *Traité*, p. 162 n. 3, Arg. ὑπωρυφία : οροφία, ἐπώνυμος : ὄνομα, it seems to me that *-ωρογ- > -ωρυγ- (: ὀρόγ-υια) is more probable. There is thus no reason to assume that this term originally contained the word ὀρόγυια; -ωρυγ-ος therefore points to *-h₃roǵ- (the ω is the lengthening in compounds).

I do not see the point of Szemerényi's idea of ascribing h₁ to ὀρέγω (p. 231). There is not the slightest reason to assume h₁ instead of h₃ and I do not see how in that case he plans to explain the ο; *h₁oreǵ- cannot be considered. Forms with *ἔρεγ- have not been demonstrated. The connection with ὄρνυμι solves nothing and merely creates new problems. The inclination to reduce everything "zur grossen 'Bewegungs'wurzel er-" (Frisk, II 424) is great. *Ὀρνυμι probably also has h₃. The forms ἔρπαιο, etc., present an awkward problem for the laryngeal theory. However, it is methodically incorrect to deny the rule, which is based on many facts, on the strength of a single exception.

ὀρεχθεῖν as against ῥοχθεῖν; ὀρεχθεῖν occurs only once in Homer, Ψ 30, where the meaning has been disputed (cf. Leaf *ad loc.*). The link with ῥοχθεῖν cannot be regarded as certain.

ὀρίνω from the root of ὄρνυμι; *h₃r-ei- or *h₃r-ih is possible. The relation to Lat. *ir-rī-tare*, *rīvus*, Skt. *riṇāti* is uncertain.

ὀρνις from *h₃er-; cf. p. 130.

ὄρνυμι see p. 132f.

ὀρούω. The prothetic vowel, indicated by comparison with Lat. *ruo*, can be explained by a laryngeal; the word is considered to be related to ὄρνυμι whose root is *h₃er-, so that *h₃reu- seems obvious. However, the form *h₃reu- would have given *ὀρευ-, not ὀρου-. Schwyzer compares κολούω κελεύω (τελευτή) (ἀλεύεται may be explained as *h₃leu-). If Lith. *kálti* 'forge, hammer' is related to κολούω (Frisk, I 897), this indicated a disyllabic root (*kolh-). In that case a basic form *k_lh₃-eu- > κολου- would be conceivable for κολούω. In the same way κελεύω could be based on *k_lh₁-eu-; here, however, a laryngeal cannot be pointed to. (The connection with καλέω is not strong semantically. Skt. *kaláyati*, beside *kāláyati*, 'impels, bears' points perhaps to *kolh₃eti.)¹⁰ This would give *h₃eu- (or *h₃rh₃-eu-) for ὀρούω, but there is no indication of such forms. Frisk II 423 points to κρούω, for which Balto-Slavic forms suggest PIE *krou-, so that perhaps one must start from *h₃rou(s)- (the aor. ὀροῦσαι seems the oldest form) for ὀρούω too.

¹⁰ In addition the vocalism of ἀκόλουθος as against κέλευθος is not explained if it must be connected with κελεύω. However, the word may well be non-IE; cf. ἄρκευθος. Cf. the problem of ἐρέφω : ὄροφος, ἐρέφω : ὀροθύω, ἐλεφαίρομαι : ὀλοφώτιος.

ὀρύσσω beside Lat. *rūga*, Lith. *raĩkas* 'groove' may contain **h₃r(e)ug-*. A difficulty is formed by the Greek *χ*; see Frisk.

ὄρχις beside Av. *ərəzi* (du.), Lith. *eĩžilas* may be **h₁(e/o)rǵhi-*, but there is no reason to assume a laryngeal.

Conclusion. — One can speak of a prothetic vowel only in ὀρέγω ὀρούω ὀρίνω and ὀρύσσω, where a laryngeal is possible. Ὀρεχθεῖν is uncertain.

d. αλ-

I. (elsewhere) ἄλγος s.v. ἀλέγω; 1. ἀλέα s.v. εἴλη (εϝ); ἀλεκτρούων s.v. ἀλέξω; ἀλής (αϝ); ἄλις s.v. ἀλής (αϝ); ἀλλάσσω ἀλλοδαπός s.v. ἄλλος; ἄλπ(ν)ιστος s.v. ἔλπομαι (?); ἄλυσις s.v. εἰλύω (?); ἄλυω s.v. 2. ἀλέα.

II. (no proth. vowel) ἀλάομαι (Latv. *aliōt*, **al-*), ἀλδαίνω (*alo*), ἀληθής (α- priv.), ἀλθαίνω (*alo*), ἀλίσκομαι (ϝ-), ἄλλομαι (*s-*), ἄλλος (**alǵo-*), ἄλς (*s-*; IE?), ἀλύτᾱς (*u-*?), ἀλφάνω (Skt. *árhati* < **alg^hheti*, **h₂el-g^hh-*).

III. (non-IE) ἀλάβαστος, ἄλιζα (Goth. **alisa*, Russ. *olbcha*; Centr. Eur. ?), ἀλόη, ἄλφα.

IV. (no etym.) ἀλαζών, ἀλαιθερές, ἀλαλά, ἀλάλυξ, ἀλαός, ἄλαστος, ἄλεισον, ἀλίβας, ἀλιβδύω, ἀλίγκιος, ἀλίη, ἀλικάκκαβος, ἀλινδέω, ἄλιξ, ἄλιος, ἀλισγέω, ἀλίφαλος, ἀλκυών, ἀλλᾱς, ἄλλιξ, ἀλοσύδνη, ἄλυσσον, ἀλωή.

V. (unreliable) ἄλιψ, ἄλσος; ἄλυζα, ἀλυκτοπέδη, ἄλφι (IE?).

VI. ἀλαπάζω. The α may be prothetic. For the Aeschylean forms without see p. 80.

2. ἀλέα ἀλέομαι, ἀλύσκω may contain **h₂l(e)u-*, but related forms from other languages are not known.

ἀλέγω 'to care': ἄλγος 'pain, grief'. The group has recently been discussed by Szemerényi, *Syncope*, pp. 148-60. He points out that Frisk's comparison with ἀλέξω: ἀλκή is misleading. This formation is normal for ἀλκή, unknown for ἄλγος. **H₂elg-es-* (e.g. Kurylowicz, *Etudes*, p. 43) would be impossible. One expects **h₂leg-os*, cf. ἔρεβος, Goth. *riqis* < **h₁reg^hos*, not **h₁erg^h-* (cf. Schwyzler, p. 512,5). The form **ἀλέγος* is confirmed by ἀλεγεινός < *-es-no-* (and others, δυσηλεγής ἀπηλεγέως ἀνηλεγής and ? τανηλεγής). For the semantic objections Szemerényi compares Goth. *kara* 'sorrow': Eng. *to care* and Eng. *trouble* and *to trouble*. Incomprehensible, both semantically and formally, is his suggestion to connect ἀλέγω as 'to reckon, count' with λέγω; cf. for this p. 26. His thesis: "this means that if we want to separate ἀλέγω from ἄλγος we have to connect it with λέγω" (p. 151 f.) is unclear to me. It starts from the idea that there must be related forms known of every IE word; cf. (*ibid.*) "... only ἀλέγω would remain to carry the burden of an IE **leg-* ...". On the contrary, it would not be surprising if no related forms could be shown any more of a very large number of the IE inherited words. For Szemerényi's view of the prothetic vowel see p. 47. It has been assumed that ἄλγος was formed by syncope from **ἀλέγος* (De Saussure, *Mél. Graux*, p. 743; likewise Szemerényi). But

as such syncope is very rare,¹¹ it is perhaps better to explain ἄλγος as having come into being on the analogy of forms with zero grade $*h_2lg-$ > ἄλγ- as for instance ἄλγιστος. Cf. κράτος instead of κρέτος (Aeol.) beside κράτιστος (and κάρρων κάρτων for κρέσσων; in the same way, therefore, ἀλγίων for $*h_2legiōn$ > ἄλεζων). And yet in my opinion the possibility of $*h_2elgos$ for the basic language cannot be excluded, having regard to Skt. *ójas-*, Av. *aojah-*, Lat. *augus-tus*, PIE $*h_2eugos$ and γένος < $*genh_1os$, βέλος < $*g^helh_1os$.

ἀλείτης (ἀλοιτός, ἀλιταίνω) may be $*h_2leit-$. Perhaps in OHG *lidan*, etc., see p. 85.

ἀλείφω 'anoint'. The formal differences (α : zero, φ : π) make the connection with λιπ- objectionable, of which the meaning is also more that of 'stick', causat. 'glue'. Ἀλείφω itself can be analysed as $*h_2leibh-$.

ἀλέξω, Skt. *rákṣati* : ἄλκη (OE *ealgian*) from a stem $*h_2lek-/h_2elk-$; see p. 89.

ἀλέω ἄλεσσα from the disyllabic root $*h_2elh_1$; see p. 129.

ἀλίνειν : Lat. *lino lēvi* may go back to $*h_2l(e)i-$.

2. ἄλκη. Germ. $*alχ-$ and $*elχα(n)-$ make laryngeal impossible. (It seems to me that $*h_1lk-$ would have given $*ἐλκ-$ in Greek.)

ἄλοξ 'furrow' has many by-forms, see Frisk, I 77. In my opinion the laryngeal theory can offer no explanation of this. The forms are so capricious that one must consider non-IE origin. This is perhaps indicated by εὐλάκᾱ (Lacon.), αὔλακες : αὐλάχᾱ Hsch. with κ : χ and further αὔλαξ (Hes., Hdt., Pi.) : ὄλαξ (EM), ὀμ-ώλακες (A.R.) with αυ : ω, cf. θαῦμα : θῶμα (p. 177) and finally the change of the initial phonemes ἀλοκ-/ὄλοκ-/αὔλακ- compared with ὀρεσχάς : τὸ σὺν τοῖς βότρυσιν ἀφαιρεθὲν κλήμα Hsch., which has the forms ὀρε-/ἄρα-/αὐρο- (for these forms see Frisk s.vv. ἀρασχάδες and αὐροσχάς).

ἄλφος (Lat. *albus*) cannot contain a disyllabic root; if Arm. *alawni* 'dove' and Serb. *lābud* 'swan' have a disyllabic root and ἄλωφους : λευκοῦς Hsch. belongs to this group, it must be separated from ἄλφος. In itself ἄλφος : ἄλωφός may be interpreted as $*h_2(e)lbh-$: $*h_2lōbh-$.

The relation of ἄλῳπηξ to the related words is not clear. Arm. *aluēs* < $*alōpek-$ cannot be separated from it, but allowance must be made for the possibility of non-IE origin.

Conclusion. — Laryngeal is probable for ἄλέγω (ἄλγος) and ἀλέξω (ἄλκη). One can speak of a prothetic vowel in ἀλέ(φ)ομαι, ἀλείτης, ἀλείφω and ἀλίνειν. Ἄλοξ and ἄλῳπηξ are unclear.

e. ελ-

I. (elsewhere) ἐλαίαγνος s.v. ἐλαία; ἐλάνη s.v. εἰλέω (εφ); Ἐλάστερος s.v. ἐλαύνω;

¹¹ Szemerényi's recent study (*Syncope*) confirms this impression rather than that it demonstrates that syncope was a phenomenon of any great extent in Greek. (Review by Lejeune, *BSL* 61 (1966) 34-8.)

ἐλδομαι (εϝ); ἐλελίσφακος s.v. ἐλελίζω; ἔλεμος s.v. ἔλυμος; ἔλιнос ἔλιξ s.v. 2. εἰλέω; ἐλίχρυσος s.v. ἔλος; ἔλομαι (εϝ).

II. (no proth. vowel) ἔλαφος (**el-n-*), ἐλεῖν (*s-*), ἐλίκη (*f-*), ἔλκος (Skt. *árśas-*), ἔλκω (*s-*), ἔλος (Skt. *sáras-*), ἔλπος (*s-?*).

III. (non-IE) ἐλαία, ἔλεγος, ἐλεδώνη, ἐλέφας, φελχανος.

IV. (no etym.) ἐλάργει, ἐλέα, ἐλειός, ἐλελεῦ, Ἐλένη, ἐλεόν, 2. ἐλεός, ἐλεσπίδας, Ἐλευσίς, Ἐλλάς (*s-?*), ἔλλαρα, Ἐλλήσ(ποντος), ἔλυμος.

V. (unreliable) ἐλασᾶς, ἐλάτη, ἐλεγαίνειν, ἐλθεῖν, ἐλίκωψ, ἐλινύω, ἐλλέβορος, ἐλλεδανοί, ἐλλωψ, ἐλλύτας (εἰλύω), ἐλμῖς (*μ-?*), ἐλύδριον.

VI. ἐλαύνω ἐλάσαι has disyllabic root *(*h*₁)*elh*₂-, p. 197.

ἐλαφρός as against OHG *lungar*. If this is based on **lhg^uh-ró-*, the Greek could point to **h*₁*lhg^uh-ró-*.

ἐλαχύς as against Skt. *laghú-* from **h*₁*lhg^uhú-*? Cf. Lith. *leñgvas*.

ἐλέγχω is not interpreted with sufficient certainty. All suggested related words begin with *l-*. The structure of the word allows of **h*₁*len-g^wh-* (cf. Av. *rəñjaiti* 'makes light, strong', Latv. *langāt* 'curse'). In itself ἐλέγχω could go back to a conjunctive **h*₁*l-en-gh-ō* of a nasal present **h*₁*l-n-egh-mi* **h*₁*l-η-gh-mes*; for this phenomenon see Kuiper, *Nasalpr.*, p. 97 and p. 236f. of this book. For the connection with Hitt. *linkzi* 'swear' see p. 93.

ἐλελίζω must, if related to Skt. *réjati*, etc., go back to a reduplicated form. A stem **h*₁*l(e)ig-* is conceivable, but this expressive word probably escapes linguistic analysis.

ἐλεος from the stem **h*₁*leu-*, see p. 109.

ἐλεύθερος as against Lat. *liber*, Ven. *lo.u.zerofo.s* (dat. pl.), etc., may go back to **h*₁*leudh-*.

ἐλεύσομαι as against OIr. *lod*, *luid* < **ludh-om* (Skt. *ró(d)hati?*) gives **e-leudh-* from **h*₁*leudh-*? It remains an open question whether this stem is identical with the preceding one.

ἐλεφαίρομαι, to which may belong ὀλοφώϊος, remains uncertain. Lith. *vilbinti* 'make a fool of' may point to **uelh-* (in τ 565 οἱ ῥ' ἐλεφαίρονται *f-* can be read instead of the ῥ' τ' δ' γ' of the manuscripts). With ἐλεφ-: *vilbinti*, cf. ἀλώπηξ: Lith. *vilpišys*.

Conclusion. — Ἐλαύνω perhaps had laryngeal at the beginning on account of ἐλήλαμαι, where, however, one does not speak of a prothetic vowel. Prothetic vowel may be suspected in ἐλαφρός ἐλαχύς ἐλέγχω ἐλεύθερος ἐλεύσομαι and ἔλεος. The interpretation of ἐλελίζω and ἐλεφαίρομαι is highly uncertain.

f. ολ-

I. (elsewhere) ὀλαί s.v. οὔλαί; ὀλιγηπελέων s.v. ὀλίγος (*ἄπελος, p. 89); ὀλοκόττινος s.v. ὄλος; ὀλοός s.v. ὄλλυμι; ὀλοσχερής s.v. ὄλος; ὀλούφω s.v. ὀλόπτειν; ὀλοφυκτής s.v. ὄλος; ὀλοφώϊος s.v. ἐλεφαίρομαι.

II. (no proth. vowel) ὀλκή (*s-*), ὄλμος (*μ-?*), ὄλος (Skt. *sárva-*).

III. (non-IE) *Ολυμπος, ὄλυνθος.

IV. (no etym.) ὄλβος, ὀλολύζω (cf. ἐλελίζω), ὀλός, ὄλυραι.

V. (unreliable) ὀλοοίτροχος.

VI. ὀλιβρόν may be compared with OE *slipor* < **slib-ro-*; see further p. 84 ff.

ὀλίγος, Arm. *alk'at* 'poor, needy' would, if connected with λοιγός 'ruin', give an ὀ-/zero interchange within Greek; see for this p. 74 ff.

ὀλισθαίνω from the stem *ὀλιθ-, connected with OE *slīdan*, etc.; see p. 85.

ὄλλυμι from the stem **h₃elh₁-*; see p. 131.

ὀλόπτειν Hsch., Call., ὀλούφω Hsch. beside λέπω; Lat. *liber* < **l(e)ubh-*? The etymology is weak. It is difficult to explain original relationship of λεπ-/ὄλοπ-/ὄλουφ- within IE. Foreign origin must therefore be considered (π/φ, -/ο/ου).

ὀλοφύρομαι, Arm. *olb*. Less certain is Lith. *ulbiuoti* 'call, sing, write'.

Conclusion. — *ὄλλυμι has laryngeal. Prothetic vowel as against s-: ὀλιβρόν ὀλισθαίνω. Prothetic vowel beside zero (in Greek): ὀλίγος (λοιγός). *ὀλόπτειν and ὀλοφύρομαι are entirely uncertain.

g. αμ-

I. (elsewhere) ἁμαρτή s.v. ἅμα; ἁμβλυσ s.v. ἁμαλός; ἁμείρω s.v. ἁμέρδω (?); ἁμμος (from ἁμαθος and ψάμμος?); ἁμπατισ s.v. ἁνά; ἁμφιάζω Ἀμφιάραιος ἁμφίον ἁμφίπολος ἁμφισβητέω ἁμφορεύς ἁμφουδίσ s.v. ἁμφί.

II. (no proth. vowel) ἅμα (s-), ἅμαθος (s-?), Ἀμάλθεια (α- priv.), ἁμάομαι (s-?), ἁμέθυστος (α- priv.), ἁμενηνός (α- priv.), ἁμνός (*agnus* etc.), ἁμύμων (α- priv.), ἁμυσχρός (α- priv.), ἁμφασίη (α- priv.), ἁμφί (**h₂bhi*, **ambhi*?), ἁμφω (Lat. *ambo*).

III. (non-IE) Ἀμαζών, ἁμᾶρᾶκον, ἁμία, ἁμιχθαλόεσσα (cf. ἁμυγδάλη p. 71), ἁμπελος, ἁμπυξ (ἄντυξ), ἁμυγδάλη, ἁμωμον.

IV. (no etym.) ἁμαιμάκετος, ἁμαλογία, ἁμάμαξυς, ἁμαμηλίσ, ἁμάναν, ἁμάνδαλον, ἁμαξα, ἁμάρα, ἁμαρεῖν, ἁματα, ἁμβη, ἁμβιξ, ἁμβλίσκω, ἁμβων, ἁμέσω, ἁμεύσασθαι, ἁμήκωα, ἁμης, ἁμιλλα, ἁμνίον, ἁμοιος, ἁμόρα, ἁμορβός, ἁμοτον, ἁμπλακίσκω, ἁμπρόν, ἁμυδρός, ἁμυλος, ἁμύνω, ἁμύς, ἁμφην, ἁμωτον.

V. (unreliable) ἁμαλλα, ἁμαρύσσω, ἁμείνων, ἁμύσσω (Lat. *mucro*), ἁμώσας.

VI. ἁμαλδύνω has cognate forms without ἁ- in *βλαδύς (βλαδεῖς) βλαδαρός. These include Skt. *mṛdú-*, Lat. *mollis* (< **m₁ldui-*). Arm. *melk* (< **meldui-*) has no prothetic vowel. It thus seems probable that the basic form had no laryngeal and that the ἁ- is of more recent origin; see Frisk, I 84. On the other hand, the difference in treatment of the sonant (αλ : λα) could be a consequence of the difference in structure between **h₂m₁ldu-* and **m₁ldu-*. If the stem is cognate with μέλδομαι : ἀμέλδεν, we would have a parallel there; for a possible explanation of this see p. 85 ff.

ἁμαλός. There is insufficient reason to speak of a prothetic vowel.

ἁμαρτάνω, cf. νᾶμερτής, p. 109.

ἁμαυρός beside μαυρόομαι. As with the other words for 'weak', introduction of an (unmotivated) α-privative must be reckoned with. On the other hand, allowance must also be made for the possibility that this word (-αυρός) is non-IE.

ἀμάω as against OHG *māen*, OE *māwan* has a prothetic vowel; PIE **h₂meĥ₁-/h₂emh₁-*. The Germanic forms point to **mē-*; one would therefore expect **ἀμέω* instead. The ἀ- may partly go back to *h₂e-*. In ἄμητος as against MHG *māt* one can speak of a prothetic vowel, if from **h₂ḡh₁tós* (for the development of *h₂ḡh₁-* see p. 95); the form may, however, be recent.

ἀμείβω. The connection with Lat. *migrare* remains highly hypothetical. A form **h₂mei-b/gʷ-* is in itself highly feasible.

ἀμέλγω as against OE *melcan*, etc., may be **h₂melg-*.

ἀμέργω (not cognate with ὁμόργνυμι, see p. 71) has no cognates. The structure permits of **h₂merg-*.

ἀμέρδω (Skt. *márdati* 'to rub to pieces, press'?); Hsch. μέρδει and μερθεῖσα· στερηθεῖσα, see p. 85.

ἀμολγός is unexplained.

Conclusion. — A great deal is uncertain here. Laryngeal is probable for ἀμάω, prothetic vowel in ἀμαρτάνω and ἀμέλγω, and possible according to the structure in ἀμείβω, ἀμέργω, ἀμέρδω, ἀμολγός; further ἀμαλδύνω.

h. εμ-

I. (elsewhere) ἐμβάδες ἐμμαπέως 2. ἔμπαιος ἔμπεδος ἔμπειρος ἐμπλατία ἐμπλην ἐμποδῶν ἐμπολή ἐμπορος ἐμπυριβήτης ἔμφωτον s.v. ἐν.

II. (no proth. vowel) ἐμέω (Skt. *vámiti*).

III. none.

IV. (no etym.) 1. ἔμπαιος, ἔμπης, Ἔμπουσα, ἐμός.

V. (unreliable) ἐμπάζομαι, ἐμπίς.

VI. ἐμέ : με cannot be put on a par with other cases, as emerges from Hitt. *ammuk*, Alb. *im* (whilst Albanian does not have a prothetic vowel) and because the forms with and without ἐ- occur side by side; cf. also Frisk s.v. Cowgill's suggestion (p. 170) that ἐμέ is dissimilated from **meme* is not convincing, and even less his view that ἐμός continues both **memos* and **mos* with prothetic vowel (in the strict sense).

i. ομ-

I. (elsewhere) ὀμηγερέης s.v. ὀμός; ὀμηγερέω s.v. ὀμηρος; ὀμόγνιος s.v. ὀμός; ὀμοίτος s.v. ὀμνυμι.

II. (no proth. vowel) ὀμαλός (s-), ὀμμα (**okʷ-*, Goth. *ahma*), ὀμός (s-), 1. ὀμφή (Goth. *siggwan*), 2. ὀμφή (ON *anga* "to smell" (trans. and intr.), **ongʷh-*).

III. (non-IE) ὄμφαξ.

IV. (no etym.) ὀμάζω.

V. (unreliable) ὀμαδος, ὀμαρτέω (s-?), ὀμβρος (not cognate with νέφος, see p. 74), ὀμηρος, ὀμίλος (s-?), ὀμοκλή (ὀμνυμι?), ὀμπνη.

VI. ὀμείχω, Skt. *meha-*, etc., has beside it ἀμῖξαι· οὐρῆσαι Hsch. If the connection with μοιχός 'adulterer' is correct, this would give a problem; see p. 74 ff. Cf. Arm. *mēz* 'urine', *mizem* 'urinate', p. 22.

ὀμίχλη, Skt. *meghā-*; for Arm. *mēg* see p. 22. (Not cognate with ἀμυχθαλόεσσα, see p. 71).

ὀμνυμι from **h₃emh₃-*, p. 131.

ὀμόργνυμι as against Skt. *mārjmi mṛjānti* 'to wipe off' may have **h₃merǵ-*. The form ὀμόργνυμι cannot be old. Skt. *mṛ-ṇ-āk-ti* has the old nasal present; cf. ὀρέγγυμι ὀριγνάομαι: Skt. *ṛ-ñ-jati*. In *mṛ-ṇ-āk-ti* < **h₃mṛ-ṇ-eǵ-* the laryngeal could be compared with the *s-* in σκίδνημι. This form would have given **ὀμαρ-ν-εγ-* in Greek. Ὅμαρξον in Hesychius has zero grade (cf. Skt. *amṛkṣat*). If assimilation is rejected, the *o*-vocalism of ὀμόργνυμι is not explained. One might envisage a phonetic development in **h₃mṛC-* > ὀμορC-, whereby the laryngeal determines the colour of the vowel developing from the sonant, but this development is improbable on account of ὀμαρξον (or confined to certain dialects). There is no reason to assume *o*-vocalism in Skt. (aor.) *amārḁṣīt*, as the formulation in Frisk suggests. On the other hand original *o*-vocalism is possible in the root present, to which Skt. *mārjmi* points (p. 131 n. 60).

ὀμφαλός, Lat. *umbo umbilicus*, as against Skt. *nābhi-* etc., points to **enbh-* (*onbh-*)/*nebh-* or **h₃enbh-/h₃nebh-*. The ὀ- cannot be called prothetic. Szemerényi, *Syncope*, pp. 238-49, tries to explain all the forms by paradigmatic ablaut **nebh-/ṇbh-*. He naturally admits the existence of the ablaut type **(h)enbh-/*(h)nebh-*, but posits that such a change did not occur in "ready-made words". The explanations which Szemerényi thus finds himself obliged to make are, however, forced. For instance, he says that Lat. *umbo* stands for **ombo* < **embo* < **ṇbh-*, a form to which OIr. *imbliu* may also go back. Ὅμφαλός is said to have been formed by syncope from **ὀνοφαλος*. The ὀ- in this word is then a prothetic vowel in the true sense of the word. However, there is nothing that points to this form and the syncope is in itself highly improbable. For the structure compare ὀρφανός, for which all cognates point to full grade. Cf. s.v. ὄνυξ.

Conclusion. — Ὅμνυμι (ὀμώμοκα) has *h₃*. Prothetic vowel is probable in ὀμείχω ὀμίχλη ὀμόργνυμι.

j. *a v-*

I. (elsewhere) ἀνακῶς ἀναλίσκω ἀναρριχάομαι ἀνασταλύζω ἀνασυρτόλις (?) s.v. ἀνά; ἀνδράποδον ἀνδρεΐφόντη Ἀνδρομάχη s.v. ἀνήρ; ἀνήνοθεν ἀνοκωχή s.v. ἀνά; ἀντάτας ἀντηρίς ἀντησις ἀντί ἀντιάνειρα ἀντικρύ s.v. ἄντα; ἄνωγα s.v. ἀνά.

II. (no proth. vowel) ἄν (Lat., Goth. *an*), ἀνά (Av., Goth. *ana*), ἄναλτος (*a-* priv.), ἀνδάνω (*sm-*), ἄνθος (Skt. *ándhas-*), ἄνυμι (Skt. *sanóti*).

III. (non-IE) ἄναξ, ἀνθηρῶν¹², ἄνθηρυσκον, ἄνθηρωπος¹², ἄντυξ.

¹² Kuiper, Μνήμης χάριν. (As another instance of the interchange prothetic vowel/reduplication in words of the substratum language discussed in this article must be considered ἀγλίζ/γέλιζ 'head of garlic', on the assumption that the latter form stands for **γε-γλίζ*. An exact parallel for this metathesis is not known, as far as I see, but τκ > κτ and τπ > πτ (Lejeune, *Traité*, p. 59f.) probably rests on the same principle that the more open sound comes first, and may have been prompted to avoid the group γεγ-. That the word is a substratum word appears, apart from ἄ-/γε-, also from the suffix -iθ-/iδ- (for -iθ- beside -ivθ- see Kuiper's article, p. 216ff.) and the meaning.)

IV. (no etym.) ἀναγαλλίς, ἀνάγκη, ἀνάγυρις, ἀναλεῖ, ἀναστίδωνος, ἄναυρος, ἄνδηρα, ἄνδιος, ἀνδράχνη, ἀνενετεῖ, ἀνέω, ἄνηθον, ἀνιγρός, ἀνόπαια, ἀντακαῖος, ἄντρον.

V. (unreliable) ἀνεμώνη (ἄνεμος), ἄνευ (Germ. **ē-nu*), ἀνθίας, ἀνίη,¹³ ἄνται (ἄνεμος), ἄντλος (Lat. *sentina*), ἀντόμους (ἀνατέμνω).

VI. ἄνεμος, Lat. *animus*, Skt. *ániti*, from the stem **h₂enĥ₁*-, p. 229.

ἀνεψιός as against Av. *naptya*-; **h₂nept*-. (Νέποδες is not cognate, p. 105f.)

ἀνήρ, Arm. *ayr* (Hitt. *innar*-, Luw. *annar*-?) have prothetic vowel as against Skt. *nar*-, Ital. *ner*-. Δρῶν and ἄνθρωπος do not belong here.^{13a} See further p. 75.

ἀννίς has laryngeal if connected with Hitt. *hannas*, Arm. *han* 'grandmother'.

ἄντα is cognate with Hitt. *hanza*.

Conclusion. — In ἄνεμος ἀννίς ἄντα laryngeal is probable, but there is no reason to speak of prothetic vowel; this is found in ἀνεψιός and ἀνήρ.

k. εν-

I. (elsewhere) ἔναγχος ἐναντίβιον ἐναργής ἐναυλος (I., 2., 3.) ἐνδάπιος *ἐνδινά ἐνδιος ἐνδον ἐνδορα ἐνδρυον ἐνδυκέως ἐνεῖκαι ἔνεκα s.v. ἔν; ἐνενήκοντα s.v. ἐννέα; ἐνετή ἐνέωρα ἐνηής (?) ἐνηρόσιον ἐνθα (?) 2. ἐνθινος ἐνθουσιάζω ἐνθύσκει ἐνίπῃ ἐν(ν)έπω ἐννέσται ἐννότιος ἐνόπαι ἐνοπή ἐνοργείας ἐντελέχεια ἐντός ἐντροπαλίζομαι ἐνῶδιον ἐνῶπα s.v. ἔν.

II. (no proth. vowel) ἔν (**en*; OCS *on* < **on*?), ἐνη (Hitt. *eni*-, *anni*-, OCS *onъ*), ἔννουμι (**mes*-), ἔνος (Skt. *sána*-), ἔντερα (Skt. *ántara*-, Lat. *inter*).

III. (non-IE) Ἐνυάλιος.

IV. (no etym.) ἔνελος, ἐνεός, ἐντυπάς.

V. (unreliable) ἔναρα, ἐνιαυτός, ἐνιοι, ἔντα.

VI. ἐνεγκεῖν from the stem **h₁nek̑-/h₁enĥ-*; cf. ἐνήνοχα, p. 118. The stem form *ἐνεκ- < **h₁nek̑*- in -ηνεκής. For the connection with Hitt. *ninink*- 'to lift up' see p. 93.

ἐνέρθε, ἐνέρτερος stand against νέρθε, νέρτερος, Arm. *ner-kʷ*-, Umbr. *nertru* etc. For the ἐ- see p. 24.

ἐνθεῖν from the stem **h₁endh-/h₁nedh-*; cf. ἐνήνοθε p. 118. (Frisk's ἐνεθ-/ἐνοθ-/ἐνθ- is possible only if the ἐ- of ἐνεθ- is a prothetic vowel, for otherwise one may reckon only with the forms **nedh-/endh-*: PIE **enedh-* is impossible.)

ἐννέα. As Arm. *inn* also begins with a vowel, it is obvious to regard the initial vowel of both words as prothetic vowel as against **neuy* elsewhere. The form **h₁n(e)uy*, however, explains neither ἐνενη- nor ἐννέα without more ado. The problem is discussed in detail by Szemerényi, *Syncope*, pp. 107-44. Greek has beside *ἐν(ν)εφα a form *ἐνφε- in compounds. The latter will therefore have caused the double vv of ἐννέα (but -vφ- > -vv- is far from sure; cf. p. 248 and Lejeune, *Traité*, p. 137 n. 1). Szemerényi disclaims an ablaut **h₁neuy-/h₁enuy-*, cf. s.v. ὀμφαλός, p. 44. He further

¹³ Against connection with Skt. *ámivā*- Kuiper, *AION* (1959) 157-65.

^{13a} See note 12.

disclaims that Arm. *inn* can come from **h₁enun*, since this would have become **ing* (on account of *cung-* < **gonu-*, Meillet, *Esquisse*², p. 84). It is, however, the question whether the development in this position would have been the same. He is of the opinion that **eneun* would have given Arm. *inun-* (**eneun* > **inowan* > **inoun* > *inun*), which functions as the stem of the oblique cases, while the parallelism *tasunk*¹ (plural of 'ten') *inunk*¹ would have yielded the form *inn* beside *tasn*. I am not in a position to assess that. Both *ἐννέα* and *inn* would then go back to **h₁enun*. Szemerényi explains the form *ἐνφα-* by syncope from **ἐνεφα*. He believes that support for this may be found in Myc. *enewo(peza)*, 'enewo-'. In Homer the forms with *ἐνφα-* are evidently older than those with *ἐννεα-* (-βοιος etc.), and therefore one would have expected **enwo-* (written **e-nu-wo* or **e-no-wo-*) in Mycenaean if *ἐνφα-* had already existed then. Evidently, therefore, the syncope took place *after* the Mycenaean era but *before* Homer. However, it seems strange to me that the syncopated form, which has had such an influence, did not come into being until after 1200 B.C., but had already disappeared again from the living language at the time when the Iliad and the Odyssey were put in their final form. Consideration should be given to the possibility that *ἐνφα-* goes back to the zero grade **h₁nu-*: the sonant develops into VC (cf. **h₂rêró-* > ἀργ(ρ)ός, p. 34), the colour of the vowel is determined by the laryngeal. In compounds zero grade is to be expected.

A particularly awkward case is *ἐννήκοντα*. Szemerényi's solution is not convincing, **(h₁)neuḡkonta* > **ἐνευνᾱκοντα*, by analogy **ἐνεφανᾱκοντα*, by syncope **ἐνφανᾱκοντα* > *ἐννήκοντα*.

ἐνοσις perhaps **(h₁)enḥ₃-*; see p. 231.

Conclusion. — Ἐνήνοθε and -ηνεκής (ἐνήνοχα) have laryngeal. Prothetic vowel is also probable in *ἐννέα*.

1. ov-

I. (elsewhere) ὄναλα s.v. ἀνά(?); ὄνειρα s.v. ὀνίνημι.

II. none.

III. (non-IE) ὄνος.

IV. (no etym.) ὄνθος, ὄνθυλεύω, ὄνιννος, 2. ὄνυξ.

V. none.

VI. ὄναρ, Arm. *anurj*. The forms further known are ὄνειρος, Aeol. ὄνοιρος, Cret. ἄναιρον and ἄναρ and in Albanian Geg. *ândërr*, Tosc. *ëndërrë*. Armenian points to **h₁mōr-jo-*, ὄνειρος to **h₃ner-jo-*; ὄναρ (ἄναρ) and ἄναιρον point to zero grade of the suffix, to which the Aeolian form will also go back. This suggests an inflexion nom. -ōr, acc. -ér-ηi, gen. -r-ós (cf. ἀνήρ).¹⁴ Less clear is the form of the stem. For ὄναρ **h₃nr* is possible (in the oblique cases **h₃nr-* before consonant, **h₃nr-* before vowel, gen. **h₃nrós*, loc. pl. **h₃nrsí*), but Albanian would suggest **h₃enr-*, p. 20.

ὄνειδος, Arm. *anicanem* as against Goth. *ga-naitjan* 'to revile' (cf. Goth. *neip*, Dutch *nijd*).

¹⁴ An exact parallel is Arm. *awr* < **āmōr*, ἡμέρ-ᾱ, ἡμαρ.

ὀνίνημι ὀνίναμαι, Dor. ὀνᾱσις, stem ὀνᾱ- implies **h₃neh₂-*. Cf. p. 94, 130 n.

ὄνομα, Arm. *anun* as against Lat. *nōmen* etc. seems to suggest prothetic vowel. For ὄνομα this would have to be *h₃*, but Lac. Ἐνυμακρατίδας with OPr. *emmens* points to PIE *e-*, which makes *h₃* impossible. In that case there is no reason to assume *h₁*. This is confirmed by the fact that in compounds like *sa-nāman* in Indian lengthening of the preceding vowel never occurs; see p. 93 f. Szemerényi, *Syncope*, p. 244 f., disclaims the value of the Old Prussian form, but without strong arguments (see p. 230 n. 115). His explanation of the Greek forms (his p. 244 n. 3) is unacceptable: prothetic vowel (in the strict sense of the word) ᾱ- with assimilation to ὄνομα and in other dialects dissimilation (from **ἄνομα*) to **ἔνομα/ἐννομα-*. According to Hamp (see p. 21 f of this book and *Evidence*, p. 138), the Albanian forms suggest zero grade, since in his opinion diphthongization of PIE *e-* to *je- ja-* occurred, cf. *jam* 'I am' (**esmi*), *jashtë* (ἐκτός), *t-jetër* (Umbr. *etro-*). See for further interpretation p. 229 f.

ὄνομαι has no certain cognate forms. See p. 231.

ὄνοξ as against Skt. *nakhá-* etc. could go back to **h₃nogh-*. The interpretation of Arm. *elungn* 'nail' is difficult. According to Meillet, *Esquisse*², p. 47, this developed from **e-nogh-* with *-n* for words representing parts of the body (*otn* 'foot', *unkn* 'ear') and anticipation of this *n* (which was itself secondary), **enongn*, and dissimilation to *elungn*. Frisk is of the same opinion. In this case prothetic vowel would be certain (although the timbre of Armenian is striking). Osthoff, *Etym. Parerga*, p. 280, explained *el-ungn* as a compound, 'Horn-nagel'; cf. *amis* p. 23. For *ung-* cf. Lat. *unguis*, which does stem from **-ongh* (**h₃engh-*). This would mean **h₃nogh-/h₃engh-*. Szemerényi, *Syncope*, p. 238-49, denies this and tries to explain Lat. *unguis* from **h₃gh-*u* > *engh-*u* > *ongh-*u**¹⁵ (supported by OIr. *ingen* < **h₃gh-*u*ina*). However, this development is not plausible for Latin; cf. s.v. ὀμφαλός p. 44. Skt. *anghri-* 'foot' will not belong here (Mayrhofer, I 545). Hitt. *šankuiš* is also obscure; it is conceivable that the form has *s* movable before laryngeal, but the group *sh* is preserved in Hittite and gets prothetic vowel at the beginning of the word, *ish-*, see p. 82. ὄνοξ will therefore be based on **h₃nogh-* with dissimilation *o-o > o-u* (cf. *ω-o > ω-u*¹⁶ s.v. ὀρέγω p. 37 f.) and in addition *o > u* in the vicinity of labial sounds, *νόξ < *nok^u-*, *πρυμός < *προμός*; cf. Cowgill, *Evidence*, pp. 156 f. With a reduced grade **h₃n_egh-* the *u* is even more difficult to explain (one expects **ὄναχ-*, unless one assumes that **h₃n_egh-* became **ὄνοχ-* phonetically).¹⁷

Conclusion. — Many words present special difficulties. Prothetic vowel is probable for ὄνειδος ὄνειρος ὀνίνημι ὄνοξ.

¹⁵ If the form originally had a laryngeal at the beginning, one would in my opinion expect from **h₃ghu-* in Latin the form **angu-* (for the influence of laryngeal on the vocalic sonant in Latin see p. 133).

¹⁶ Compare the compounds with *-ᾰνοξ* and *-ᾰνοχος*, e.g. *γαμψᾰνοξ*, *κρατερᾰνοξ* (II.).

¹⁷ As appeared above (p. 44), it is, however, improbable that **h₃mi-* became ὄμορ-, on account of ὄμαρξον; thus **h₃n_eC-* > ὄνοC- is even less likely.

m. α -

I. (elsewhere) ἄβροτάζω¹⁸ s.v. ἁμαρτάνω; Ἀγαμέμνων ἄγανακτέω ἁγάννιφος s.v. ἄγα-; ἀγγελή s.v. ἄγω; ἀγήνωρ s.v. ἄγα-; Ἀγησίλαος s.v. ἡγέομαι; Ἀγλαυρός s.v. ἄγλαός; ἄγνός s.v. ἄγιος; ἄγνυμι (αφ); ἀγορά s.v. ἀγείρω; ἀγρήσκειται ἄγρυπνος ἄγρωστις s.v. ἀγρός; ἄγρεια s.v. ἄγω; ἄγχι ἀγχίλωψ s.v. ἄγχω; ἄδαγμός s.v. ὀδάξ; ἄδδανον s.v. ἄζα; ἄδνόν s.v. ἄγνός; ἄδρός s.v. ἄδην; ἄεθλος ἀεῖδω ἀεῖρω ἀέλιοι ἄελλα ἄεσα (αφ); ἀεσίφρων s.v. ἄάω; ἀηδών ἄημι ἄήρ (αφ); αἰγίλων s.v. αἰγειρος (?); αἰγίς s.v. αἶξ; αἰετός (αφ); αἰθάλη αἰθήρ s.v. αἶθω; αἰκλοι s.v. αἰχμή; αἰπόλος s.v. αἶξ; αἶσα αἰτέω αἶτιος s.v. αἴνυμαι; αἶφνης s.v. αἶψα (?); αἰσθάνομαι (αφ); αἶω s.v. αἰσθάνομαι; αἰών s.v. αἰέν; ἀκαίνω ἀκαχμένος s.v. ἀκή; ἀκέων s.v. ἦκα (?); ἀκμή ἀκόνη ἀκρῆς ἄκρος ἄκων s.v. ἀκή; ἀολλής (αφ); ἄορ s.v. ἀεῖρω; ἀπεράω ἀπηγής (?) ἀποδιδράσκω ἀπόθεστος ἀποινα ἀπόκυνον ἀπολαύω ἀπολείν[α] ἀπόμελι ἀπούρας ἀποφράς ἀποχειροβίτος s.v. ἀπό; ἄστν (αφ); ἀτμός s.v. ἄημι; ἀτρακίς s.v. ἄτρακτος; αὐαψη s.v. αὖος; αὐδή s.v. ἀεῖδω; αὐερύω s.v. ἀνά; αὐθᾶδης s.v. αὐτός and ἀνδάνω; αὐθέντης s.v. αὐτός and ἄνυμι; αὐθι s.v. αὐτός; αὐλή s.v. ἄεσα; αὖξω s.v. ἀέξω (αφ); αὔριον s.v. ἔως; αὐτίκα s.v. αὔ; αὐτμή s.v. ἄημι; αὐτόδιον αὐτοκράτωρ αὐτόματος s.v. αὐτός; αὐχμός s.v. αὖος; ἀφαδία s.v. ἀπό and ἀνδάνω; ἄσπορος s.v. ἄψ.

II. (no proth. vowel) ἄατος (α- priv.), ἄβλοπές (α- priv.), ἄγκ- (Skt. *anc-*), ἄγρός, ἄγχω, ἄδαής (α- priv.), ἄδελφεός (α- copul.), ἄδευκής (α- priv.), ἄδῃν (η-), ἄδην (s-), ἄδιαντον (α- priv.), ἄδραστος (α- priv.?), ἄζηχής (α- priv.), ἄθρός (ση-), αἰάξω (interj. αἶ), αἰδηλος (α- priv.), αἰεῖ (Skt. *āyu-*), αἰκής (α- priv.), αἰλινος (interj.), αἰνυμαι (**ai-*), αἶξ (**aiǵ-*; cf. p. 128), αἰχμή (**aik-*), ἄκαρός (η-?), ἄκαστος (*acer*? IE?), ἀκή (**ak-*?), 1.2. ἀκήρατος (α- priv.), ἄκνηστις (false word division), ἀκοίτης (α- copul.), ἄκμων, ἀκόλουθος (α- copul.), ἀκοστή (Lat. *acus*?), ἀκράχολος (α- priv.), ἄξων, ἄοζος (α- copul.?), ἄορον (ση-), ἄοσσέω (ση-), ἄπαξ (ση-), ἄπειρέσιος (α- priv.), ἄπλός (ση-), ἀπό (Skt. *āpa* etc.), ἄσβεστος (α- priv.), ἄσκηθής (α- priv.), ἄσπερχές (α- intens.), ἄσπετος (α- priv.), ἄστηνος (α- priv.), ἄστραβής (α- priv.?), ἄσχεδωρος (ἀνά), ἀτάρ (Lat. *at*), ἀτάρβακτος (α- priv.), ἀτάσθαλος (α- priv.), ἀτειρής (α- priv.), ἀτενής (α- copul. ? p. 25f), ἄτερ (ση-), ἀτέραμνος ἀτίξω ἀτίω ἀτρεκής ἀτρύγετος (α- priv.), ἀτύζομαι (Hitt. *hatugi-*?), αὔ (au), αὐλός (aul-, IE?), αὖος (s-), ἀφαμιῶται (α- priv.), ἀφλοισμός (α- copul., or anal.), ἀφόρδιον (young), ἄχην (p. 129), ἀχλὺς (OPr. *aglo*), ἄψ (Lat. *abs*).

III. (non-IE) ἄβαξ, ἄβιν, ἄβολεῖς, ἄβόλλης, ἄβρυτοί (ἄμβρυττοι, βρύττος), ἄβυρτάκη, ἀγάλοχον, ἄγαρος, ἄγγελος, ἄγγος, ἀγέρδα (Mac.), ἀδάρκη, ἀδῆ (Mac.), ἀδραία (Mac.?), ἄδωνις, ἀθάρη, Ἀθήνη, ἀθήρ (ἀνθ-), αἰδωσσα, ἀκακαλῖς, ἀκακία, ἀκαλήφη, ἄκανθα, ἀκινάκης, ἄκολος (?), ἄκριστιν, ἄκυλος, ἀπήνη, ἄπιον, Ἀπόλλων, ἀσάμινθος, ἄσαρον, ἄσιλλα, ἀσίρακος, ἀσκάλαβος, ἀσκάλαφος, ἀσκαλώνιον, ἀσκαρίς, Ἀσκληπιός, ἄσκρα, ἀσπάλαξ, ἀσπάλους, ἀστακός (see p. 51 s.v. ἀστράγαλος), ἀστράβη, ἀσύφη, ἀσφόμελος, ἀτάλυμνος, ἀτράφαξ, ἀττηγός, αὐροσχάς, αὐχὴν (Aeol. ἄμφην), ἄχαρνός, ἀχῆτης, ἄχερδος, ἄχερωῖς, ἀχράς, ἀψίνθιον.

¹⁸ Cf. also Ruijgh, *L'élém. ach.*, p. 74.

IV. (no etym.) ἀάατος, ἀάζω, ἀάνθα, ἄαπτος, ἀάω, ἄβα, ἄβαγνα, ἀβακής, ἀβάν-
τασιν, ἀβαριστάν, ἀβαρύ, ἄβεις, ἀβήρ, ἀβλαδέως, ἀβριστήν, ἀβρός, ἀβρότονον,
ἀβυδόν, ἀγαθίς, ἀγάλλομαι, ἀγανός, ἀγαπάω, ἀγαρικόν, ἀγαυός, ἀγαυρός, ἄγγουρα,
ἀγερώχος, ἀγέτρια, ἀγλαός (not cognate with γαλήνη), ἄγλις, ἀγλύεσθαι, ἄγνος,
ἀγνύς, ἄγχουσα, ἀδαλός, ἀδημονέω, ἀδίκη, ἄδις, ἀδολέσχεις, ἄεμμα, ἄεπτος,
ἀερόπος, ἄζετον, ἄζον, ἀήσυλος, ἀθερίζω, ἀθραγένη, ἀθρέω, αἶα, Αἶας, αἰγειρος,
αἰγιαλός, αἰγίθαλλος, αἰγίλιψ, 1.2. αἶγλη, αἰγωλιός, αἰζηός, αἶητος, αἰκάζει,
αἰκάλλω, αἰκλον, αἴμων, αἶνος, αἰνός, αἰονάω (cf. p. 95), αἶπος, 1.2. αἶρα, αἶρέω,
αἶσακος, αἰσάλων, αἴσθων, αἴσυλος, αἶψα, ἀκαλαρρείτης, ἄκαρον, ἄκασκα, ἄκατος,
ἀκιδνός, ἀκίρός, ἀκκώ, ἄκμηνος, ἀκόνιτον, ἄκορνα, ἄκορον, ἀκραιφνής, ἀκρεμών
(beside κρεμών Eratosth.), ἀκριβής, ἀκρίς, ἀκτέα, 1.2. ἀκτή, ἀκτηρίς, ἀκτίς, ἀπαλός,
ἀπαργία, ἀπαφίνιον, ἄπαφος, ἄπελος, ἀπολάντιον, ἄππα, ἀπροξίς, ἄπτω, ἀπυλιδῶναι,
ἄπφα, ἀσαλής, ἄσβολος, ἀσελγής, ἀσκάντης, ἄσκαρος, ἀσκελής, ἀσκέρα, ἀσκέω,
ἀσκός, ἄσκυρον, ἀσκόλια, ἀσπάζομαι, ἀσπάλαθος, 1.2. ἀσπίς, ἄσπρις, ἀστραβδα,
ἀσύφηλος, ἀσχίον, ἀταβυρίτης, ἀταρτηρός, ἀτέων, ἄτη (ἀφα-?), ἀτμήν, 1. ἄττα,
ἀτταγᾶς, ἀττάκης, ἄττανα, ἀττάραγος, ἀττέλαβος, αὐκήλως, αὐρι, αὐροί, αὐτός,
αὐχέω, ἄφαρ, ἀφάρκη, ἀφauρός, ἀφελής, ἀφήτωρ, ἄφθα, ἀφία, ἀφίας, ἄφλαστον,
ἄφνω, ἄφρα, ἄφρισσα, Ἀφροδίτη, ἀφρός,¹⁹ ἀφύη, ἀφυσγετός, ἀφύσσω, ἀχαΐνη,
ἀχαΐνης, Ἀχαιοί, ἀχάλιον, ἀχᾶνη, ἄχθομαι, Ἀχιλλεύς, ἄχωρ, ἄων.

V. (unreliable) ἀβέλτερος (α- priv.), ἀβολέω (young), ἀγα- (Av. *aš-*?), ἀγήρατον
(α- priv.), ἄγιος (*i-*), ἄγος, ἄγρα, ἀδάμας, ἀδάρεξα, ἀδμωλή, ἄδρυα (*ση-*), ἄζω,
ἄητος, ἄθρας, ἀθύρω, αἰᾶνης, αἰγανέη, αἰγυπιός, Ἄιδης (α- priv.), αἰδομαι, αἰδυλος,
αἰέλουρος (cf. p. 95), αἶμα, αἶμασιά, αἰμύλος, αἰμωδέω, αἶνω²⁰, αἰόλος (cf. p. 95),
αἰσυμνάω, αἰσχος, αἴτης, ἀκάκητα, ἄκανος, ἀκαρής, ἄκος, ἀκροάομαι, ἀκταίνω,
ἀξίνη, ἄξιος, ἀπάτη, ἀπαφίσκω, ἀπελλαι (ἀπειλή), ἀποφώλιος (ἀπαφίσκω), ἀπρίγδα
(α- intens.), ἀπτερέως (α- copul.), ἀπτοεπής (α- priv.), ἄσαι, ἄση, ἄσθμα, ἄσις,
ἄσμενος, ἀσπιδής, ἄσπληνον (α- priv.), ἀσυρής, ἄσφαλος (IE?), ἀσχαλάω, Ἄτα-
λάντη, ἀταλός, ἀτέμβω, Ἄτλας, ἀτραπός (α- copul.), ἀτροπανπαις, ἄττομαι, αὐγή,
αὐίαχοι (α- copul.), 2. αὖω (*aus-*), ἀφάρκη, Ἀχέρων, ἄχνη, ἄχθυμαι, ἀχρεΐον, ἄχρι
(*η-*?), ἄχυρον, ἀψίς (ἄπτω), 1. ἄωροι (α- priv.), ἄωρος, ἄωτέω, ἄωτος.

VI. ἀβληχρός (Hom., beginning of the verse) as against βληχρός (everywhere
else). In opposition to the idea of Leumann, *Hom. W.*, p. 55, that βληχρός arose
from false word division, it must be stated that it is not probable that a passage
unknown to us would have had so much more influence than the Nekyia. Compare
the words s.v. ἀμαλδύνω p. 42, which have the same meaning.

ἀγαθός, Hsch. ἀκαθόν and χᾶσιος, may be non-IE, because of the different forms.

ἀγείρω has no cognate forms outside Greek. The connection with γέργερα
πολλά Hsch. and γάργερα is not obligatory. The structure suggests **h₂ger-*.

¹⁹ Not connected with Arm. *p'rp'ur*, where one would also expect a prothetic vowel. But cf. n. 12.

²⁰ The etymology that connects αἶνω 'to winnow' with ἄημι and explains it from **Hwānyō* (i.e. **h₂gh₂h₂h₂ō*?) — still repeated by Crossland, *Arch. Ling.* 10 (1959) 84 — is neither formally nor semantically of any value. Cf. Cowgill, p. 161.

ἄγοστός is compared with Skt. *hāsta-* 'hand' and OCS *grǫstb* 'handful'. Ἀγείρω has also been brought in here, which is rather meaningless semantically. The form ἄγοστ- suggests *ἄγορ-, *ἄγοσ- or a stem ending in dental, the first of which would correspond to the Old Church Slavonic form. The explanation of the *h-* of Sanskrit by metathesis of the laryngeal, **h*₂*g*- > **gh*₂-, is an arbitrary one.

ἄγρεῖφνα ἄγριφή 'harrow' goes with γριφᾶσθαι γράφειν. Λάκωνες. οἱ δὲ ξύειν καὶ ἄμύσσειν Hsch. No etymology. Non-IE?

ἄγω Lat. *ago* etc. must be **h*₂*eǵ*-; cf. p. 128.

ἄθελγειν (also β, δ instead of γ) is unexplained. An interpretation **h*₂*dhel*- is possible, but the varying forms could point to a non-IE word; see p. 193 f.

αἶθω points with ἰθαρός to **h*₂(*e*)*idh*-; see p. 129.

αἰώρα. To be able to link this with αἶρω one has assumed for αἰωρ- a basic form **h*₂*ei-h*₂*uer*-, dissimilated from **h*₂*uei-h*₂*uer* (from **h*₂*uer-h*₂*uer*-), which is highly hypothetical. See p. 95.

ἀκούω ἀκεύει beside Goth. *hausjan* suggests **h*₂*ke/ou*-, which may be confirmed by ἀκήκοα and νηκουστέω. Here κοέω would form a problem, but θυοσκόος, OHG *scouwon*, OE *sceawian* etc., suggests *(*s*)*keu*-. These forms must probably be kept separate from ἀκούω and connected with Skt. *kavi-* as 'to survey, see'.

ἀπειλή. If a stem with the meaning 'to proclaim solemnly, with emphasis', cognate with Latv. *pel̃t* 'to revile' and Goth. *spill* etc., Arm. (*aṛa-*) *spel*, may be taken as starting point, **h*₂*pel*- and **spel*- would seem to stand beside one another; see for this p. 85 f.

ἄσκαρίζω (Hp.) stands against σκαίρω (Il.). No reliable etymology; perhaps of foreign origin.

ἄσπαίρω (Il.), ἄσπαρίζω (Arist.) beside σπαίρω (Arist.) can hardly be separated from the widespread group to which Lith. *spiriù*, Lat. *sperno*, Skt. *sphurāti* belong. There are many difficulties of detail which must perhaps be ascribed in part to the expressive character of these words. Contamination with the preceding is feasible. Nor may the possibility of foreign origin be excluded.

ἄσταφίς ὄσταφίς σταφίς 'dried grape'. Like the cognate σταφυλή, the word seems to be a substratum word.

ἄσταχυς στάχυς 'ear of corn'. The connection with Oícel. *stinga* etc. 'to sting' is not semantically obligatory. If a stem without nasal **stegh*-, Lith. *stegerỹs* (*stāgaras*) 'withered stem of a plant' belongs here, non-IE origin must be considered for **stegh*-/ *stengh* (Centr. Eur.?). Cf. Boisacq s.v. στάχυς and Feist s.v. *us-stagg*.

The ἄ- of ἄστεμφής may be called copulative-intensive or privative. The word has been compared with στέμβω, cf. also ἀστέμβακτος = ἀστεμφής. If this is correct, the interchange β/φ points to a substratum word. This is all the more probable for στέμβω, since στεμβάζειν and στοβάζειν (plus still other forms), both of which are defined by glossographers as λειδορεῖν, suggest stem forms *stob*-/ *stemb*-. Finally, the meaning of ἀτέμβω seems the same, cf. ἀτέμβιος· μεμψίμοιρος EM (but see Leumann, *Hom. W.*, p. 33). For ἄστ- : στ- see p. 72. For στ- : ἄτ- cf. (σ)κιμβάζω : ὀκιμβάζω.

(I have grave doubts about στέμφυλον 'mass of olives from which the oil is pressed' taken with this).

ἄσ τη ρ, Arm. *astl* stands against **ster-* (Ind.-Ir., Toch., Lat., Celt. and Germ.).

ἄστεροπή στεροπή (Il.) beside ἀστραπή (Hdt.), ἀστράπτω (Il.) and στορπά: ἀστραπή. Πάφιοι Hsch., Στορπαῖος. A connection between ἀστραπή and ὀπ- (**h₃(e)k^u-*) 'to see' is impossible. The vocalic interchange is difficult to explain, as is the absence of the prothetic vowel. One must therefore assume non-IE origin. Ἀστεροπή is perhaps secondary, the product of popular etymology.

ἄσ τη λι γ ξ (Philet. ap. Sch. A.R.), ὄσ τη λι γ ξ (Call.), see p. 72.

ἀστράγαλος. Of the words compared, ὄστρακον 'shell' (h. Merc., A.), 'potsherd' (inscr. IV B.C.) is eligible in the first place. The formation (*ost-r-k* + *αλ-*, Frisk) is, however, strange for an IE word; nor can the interchange κ/γ be explained and ἄ-/ὀ- has its parallel in words that are of Mediterranean origin. The two words may be cognate with ὄστρεον 'oyster'. Finally ἀστακός/ὄστακός 'lobster' may also belong to this group, where the same interchange ἄ-/ὀ- is encountered. The connection with ὀστέον must therefore be abandoned. See Add.

ἀστραλός has prothetic vowel if cognate with Lat. *sturnus*, OHG *stara*. But a form *(*a*)*str̥lō-* is not very probable. Non-IE origin seems probable.

1 and 2 ἀσφάραγος offer numerous problems. It is not clear whether a distinction must be made here between two words differing in origin. The correspondence in form and meaning (this is discussed in more detail on p. 197) of σφαραγέομαι, Skt. *sphúrjati*, Lith. *spùrgas*, must go back to an original identity. However, a difficulty is presented here by Gr. φ — Skt. *ph*, and further the interchange π/φ and the ἄ- in Greek, which might both be of non-IE origin. Contamination with a substratum word for asparagus, for instance (cf. for form and meaning — a plant name — ἀσφόδελος) should be considered. Hiersche's detailed discussion, *Unters.*, pp. 158, 197f., offers nothing new here.

ἄτρακτος beside Skt. *tarku-* 'bobbin' could go back to a stem **h₂terk^u-*; however, I am not convinced of the correctness of this connection.

1. αὔω, αὔσαι has been connected with Lat. *iubilare*; therefore **h₂ju-*? Ἰυγή is also difficult to connect with this.

ἄφενος has been compared with OIr. *imbed* 'abundance, riches, multitude' as **mbhen-es-* and Skt. *apnas-* 'possession'; the φ must in the latter case have developed from **apsnos-*, which leaves ἄφενος unexplained. Szemerényi, *Syncope*, pp. 144-8, compares Hitt. *happinant-* 'rich', which he regards as **op-en-* from the root **op-* in *hap-zi* 'il y a abundance', further Lat. *ops* (however, putting *opulentus* as **openent-* on a par with *happinant* is unfortunate; cf. *idem*, *Glotta* 33 (1954) 266-82) and Skt. *apnas-* as **op-n-es-*. This would suggest a root **h₃ep-*. Even if this connection is possible, Gr. ἄφενος cannot be explained by it, neither the ἄ- nor the φ. Consequently Szemerényi assumes with Heubeck, *Praegraeca* (1961), p. 70, that it has been borrowed from an Anatolian language. Although it is a charming idea to assume that the Greeks took a word for 'wealth' from the country of Croesus, I do not consider this likely. In

itself the word may very well be Greek, cf. ὄφελος, ἔρεβος. This leads to the interpretation **h₂bhenes-*. Connection with εὐθενέω with a basic form **h₂g^hhen-* is not possible, since then one would expect *εὐθεν-, cf. εὐηφενής II. The formation of ἀφνειός (II.) is unclear; it cannot have been derived from ἄφενος itself.

Conclusion. — Prothetic vowel is probably found in ἀγείρω ἀγοστός ἀθέλγειν ἀκούω ἀπειλή ἀστήρ ἄφενος. The words (ἀ)βληχρός ἀγρεῖφνα ἀσκαρίζω ἀσπαίρω ἀστεμφής ἀστραλός ἀσφάραγος ἄτρακτος αὖω are unclear. Ἀσταφίς ἄσταχυς ἀστεροπή ἄστλιγξ are definitely not IE; for the prothetic vowel in these words see p. 72.

n. ε-

I. (elsewhere) ἐάν s.v. εἰ; ἐαυτοῦ s.v. ἑ; ἐβδομήκοντα s.v. ἑβδομος; ἐγγύη ἔγκαρος s.v. ἔν; ἐγκάς s.v. ἔγκατα; ἐγγύς Ἐγκέλαδος ἐγκίλλαφον ἐγκοακίσαι ἐγκλῖς (?) ἐγκοιωταί ἐγκονέω ἐγκυτί s.v. ἔν; ἐγχεσίμωρος s.v. ἔγχος; ἐγχίδιον ἐγχόδια see Frisk; ἐδέατρος s.v. ἐλεόν; ἔδνα (εφ); ἔδρα ἐδώλια ἔζομαι s.v. ἔδος; εἶδος εἶδωλον s.v. εἶδομαι; εἶδομαι (εφ); εἶθε s.v. εἰ; εἰκάζω s.v. ἔοικα; εἵκοσι (εφ); εἰκών s.v. ἔοικα; εἰλαμίδες εἰλεός s.v. εἰλέω; 1.2. εἰλέω (εφ); 2. εἶλη (εφ); εἰλόπεδον s.v. 2. εἶλη (?); εἰλυσπάομαι εἰλυφάω s.v. εἰλύω; εἰλύω s.v. εἰλέω (εφ); εἶργω (εφ); εἶρερον (εφ); εἶρομαι s.v. ἐρευνάω; εἰς s.v. ἔν; εἶτα s.v. εἰ; ἐκάεργος s.v. ἐκών; ἔκαστος s.v. ἐκάς (?); Ἐκάτη ἐκατηβελέτης s.v. ἐκών; ἐκατόμβη s.v. ἐκατόν; ἐκείνος s.v. ἐκεῖ; ἐκεχειρία s.v. ἔχω; ἐκτός s.v. ἐκ; Ἐκτωρ s.v. ἔχω; ἐκφλῆναι ἐκφλυνδάνω ἐξαίφνης ἔξαλος ἐξάντης ἔξαστις ἐξαστήρ (?) ἐξαυτῆς ἐξεράω s.v. ἐκ; ἐξῆς s.v. ἔχω; ἐξιστων s.v. ἔξ (?); ἐξονομακλήδην ἐξουλή ἔξω ἔξωφακαι s.v. ἐκ; ἐπαλῆς ἐπαλπνος ἐπάντης ἐπαρετέω Ἐπάριτοι ἐπαυρίσκω 2. ἐπαφος ἐπεῖ ἐπείγω s.v. ἐπι; ἐπεσβόλος s.v. ἔπος; ἐπήβολος ἐπηγκενίδες ἐπηετανός ἐπήρεια ἐπήρετμος ἐπήτριμοι Ἐπίασσα ἐπιβδα ἐπιβουκόλος ἐπικεῖς ἐπίεικτος ἐπιζαρέω ἐπιζάφελος ἐπίηρος ἐπίθυμβρον ἐπικάρσιος ἐπίκερας ἐπικοκκάστρια ἐπίκουρος ἐπιλαῖς ἐπιμήδιον ἐπίνητρον 1. ἐπίξενος ἐπίξηνον ἐπίορκος ἐπίουρος ἐπιούσιος ἐπιπακτίς ἐπιπατρόφιον ἐπιπλα ἐπίπλοον ἐπιπολῆς ἐπίρροθος ἐπισκύνιον ἐπίσσωτρον ἐπίσταμαι ἐπίστιον (?) ἐπισχερώ ἐπιτάρροθος ἐπίτεξ ἐπιτηδές (?) ἐπιτηλῖς ἐπίτυρον ἐπιωγαί ἐπωτίδες ἐπώχατο s.v. ἐπι; ἐσμός s.v. ἴημι (?); ἔστε s.v. ἔν; ἐστώ s.v. εἰμί; ἔσχατος s.v. ἔξ (?); ἐτέος s.v. ἐτάζω; εὐαγής εὐδείελος εὐδία εὐεξος (εὐηγενής) εὐηφενής εὐθενέω s.v. εὖς; εὐθυωρία s.v. εὐθύς; Εὖιος s.v. εὐάζω; εὐκρατής s.v. εὖς; εὐληρα (εφ); εὐμαρής εὐοχθος εὐπέμπελος εὐπετής εὐριπος s.v. εὖς; εὐρίσκω (εφ); εὐρύαγια Εὐρυβάλινδος εὐρύοδεια εὐρύοπα s.v. εὐρύς; εὐρύς (εφ); Εὐρυσθεύς s.v. εὐρύς; εὐσωπία εὐτράπελος εὐφρόνη εὐώνυμος εὐωχέω s.v. εὖς; ἐφέται ἔφηλις ἔφηλος s.v. ἐπι; ἔχεπευκής ἔχέτλη s.v. ἔχω; ἔχθοδοπέω s.v. ἔχθος; 1. ἔως (εφ).

II. (no proth.) ἐ- (Skt. *a-*), ἑ (**se*), 1. ἐανός (F-), 1. ἔαρ (Hitt. *ešhar*), 2. ἔαρ (F-), ἑβδομος (s-), ἐβρατάγησεν (augm.), ἔγγελος (Lat. *anguilla*, Lith. *ungurys*), ἐγώ, ἔδος (s-), ἔδω, ἔθος (*sm-*), ἔθρις (F-; ᾱ-, ὀ- see Frisk and p. 71), εἶκω (F-), εἶλαρ (F-), εἶμι, εἰμί, εἰνατέρεις (*i-*), εἶπον, εἶρος (F-), 1. εἶρω (s-), 2. εἶρω (F-), εἶς (s-), 1. εἶσομαι (F-), εἶωθα (*se-sm-*), ἐκεῖ (see p. 24), ἐκυρός (*sm-*), ἐκών (F-), ἐξ, ἔξ (*sm-*), ἔοικα (F-), ἔορ

(*sm-*), ἑόρῃ (F-F-), ἔπι, ἔπομαι (*s-*), ἔπος (F-), ἑπτά (*s-*), ἔπω, ἔπω (*s-*), ἔσκον, ἔσμα (*s-?*), ἔσπερος (F-), ἑταῖρος (*s-?*), ἑταλον (F-), ἑτερος (*s-*), ἑτης (*sm-*), ἔτι, 1. ἐτός (F-) 2. ἔτος (F-), εὐδω (*s-*), εὐχομαι (see p. 90), εὖω (**eus-*), ἐχῖνος, ἔχισ, ἐχυρός (*s-*), 1. ἔχω (*s-*), 2. ἔχω (F-), ἔψω (*s-?*), 2. ἔως (*i-*).

III. (non-IE) ἔβενος, ἐγγαρεύω (ἄγγαρος, Persian), Εἰλείθυια, ἐσσήν, ἔτελις, εὐμᾶρις.

IV. (no etym.) ἔ (interj.), ἔα (interj.), 2. ἐάνός, *heapa*, ἔβρος, ἐγγαροῦντες, ἐγ-
γρῶλις, ἐγκατα, ἐγκρίς, ἐδανός, ἐδαφος, εἶα, εἶαμενή, εἶβω, εἶέν, εἶθαρ, εἶλαπίνη,
εἶλιτενής, εἶρεσιώνη, εἶρήνη, εἶρων, ἐξαπίνης, ἐορτή, ἐπαινή, ἐπενπέτω, ἐπερθα,
ἐπερος, ἐπέτοσσε, ἐπητής, 2. ἐπίξενος, ἐπίσιον, 1.2. ἐπίσκυρος, ἐπισσαι, ἔποψ,
ἐσχάρα, ἐσχαρος, ἔντος, ἐτοῖμος, εὐάζω (interj.), εὐθύς, εὐνή, εὐνις, εὐράξ, Εὐρος,
Εὐρώπη, εὖτε, ἐψία.

V. (unreliable) ἐάφθῃ, ἔδεθλον, ἐθμή, ἐθμοί, ἔθνος, ἔθων, εἰ (αι), εἶλιγος
(εἰλέω), εἰλικρινής, εἰλίπους (εἰλέω), Εἰλωτες, εἰμάδες, Εἰραφιώτης, *εἶρω (ἐρῶ),
εἰρήν, ἐκάς (ἐ), ἐπασσύτεροι, ἐσθλός, ἐστία (see *ep*), ἔστωρ, ἐτάζω, εὐλή (εἰλέω),
εὐρώς, ἐφιάλτης, ἔχρος.

VI. ἐάω. In the disyllabic root *Cεφα-* assumed by Frisk the consonant (*C*) may
also be absent or be a laryngeal, **(h₁)euh₂-*, which is more probable than *s-* on account
of the absence of aspiration.

ἐγείρω, Skt. *gr-*. Cf. ἐγρήγορα, pp. 117, 121.

ἐγχοῖς beside OCS *pro-noziti* 'to pierce' etc. could be **(h₁)engh-* : *(h₁)negh-*.
Hypothetical.

ἐθειραι 'horses' manes'. The connection with ἔθρις· τομίας or ὄθη· φροντίς,
ῶρα, φόβος, λόγος (!) Hsch. is extremely meaningless. Interpretation **h₁dher-*,
**h₁g^hher-* is possible.

ἐθείρω, Φ 347 only, exact meaning unknown. The structure is the same as that
of the previous word.

ἐθέλω. It is highly improbable that ἐ- is an apophonic variant of the prefix ὀ-
(Schwyzer-Debrunner, p. 491: 13), since it would be the sole instance of it. If cognate
with OCS *želēti* **h₁g^hhel-* is conceivable. (θέλω is secondary, lit. in Frisk).

εἰκῆ. Wackernagel's interpretation (*Sprachl. Unters. zu Hom.*, p. 137 A 1) as
**ē-φεκῆ* cognate with ἐκών, ἔνεκα leaves the ἐ- unexplained (of which these words
show no trace). The interpretation must therefore be abandoned.

ἐκατόν. The origin of ἐ- is unknown. The aspiration cannot be explained by
analogy, so that we are probably not concerned here with a single vowel. Cf. p. 62.

ἐύς. If ἐυ- is compared with Skt. *su-*, a basic form **h₁su-* is obvious. Hitt. *aššuš*
can in that case have *a* from *h₁*. On the other hand the archaic ὕγις has no ἐ-;
however, for this compare p. 242. In any case the details are unclear and allowance
must be made for crossing of forms. See Add.

ἐχθές is not on a par with the cases of prothetic vowel; cf. p. 24 and Schwyzer,
p. 613.

Conclusion. — 'E- as prothetic vowel, otherwise than before *ρ λ μ ν ρ*, has been

demonstrated only in the case of ἐγείρω. Ἐγθές is capable of different interpretation, as is ἑκατόν. The other cases are very uncertain or have no prothetic vowel.

ο. ο-

I. (elsewhere) 1. ὄγκος s.v. ἄγκ-; 2. ὄγκος s.v. ἐνεγκεῖν; ὄγμος s.v. ἄγω; ὀδύρομαι s.v. ὀδύνη; οἶγνυμι (οφ); Οἰδίπους s.v. οἰδέω; οἶομαι (οφ); οἶος s.v. 1. ὄς; οἰσοφάγος s.v. οἶσω; οἰσπότη s.v. ὄϊς; οἶστρος s.v. οἶμα; οἰσύπη s.v. ὄϊς; ὀκωχή s.v. ἔχω; ὄξος ὀξυρεγμία s.v. ὀξύς; ὀπλότερος s.v. ὅπλον; ὄσσα s.v. 1. *ὄψ; ὄσσομαι s.v. ὄσσε; ὄσσος ὅτε s.v. 1. ὄς; ὀτραλέως (ὀτρηρός) s.v. ὀτρύνω (?); οὔλιος s.v. 3. οὔλος; 1. οὔλος s.v. ὅλος; 3. οὔλος s.v. ὄλλυμι; οὔρια s.v. οὔρέω (?); 2. οὔρος s.v. ὀράω (?); οὔτιδανός s.v. οὐ; οὔτος s.v. ὅ; ὄφρα s.v. 1. ὄς; ὀχεύω s.v. 1. ἔχω (?); ὄχος s.v. 2. ἔχω.

II. (no proth. vowel) 1.2. ὀ- (prefixes), ὀ (s-), ὀβδην (ὀπ-), ὄγδοος, ὀγκάομαι, 1. ὀδός (s-), 1. ὄξος (pref. ὀ- ?), οἶαξ (*ois-), οἶδα (f-), οἰδέω (*oid-), οἰέτεας (pref. ὀ-), οἶκος (f-), οἶμα (*ois-), οἶνη (*oin-), οἶος (*oim-), οἶσος (f-), οἶχομαι (*oigh-), ὀκρις (ἄκρος), ὀκρυόεις (false word division), ὀκτώ, ὀξίνα (*ok-), ὀξύς (*ok-/ak-?), ὀπατρος (ὀ- copul.), ὀπή (ὀπ-), ὀπισθεν (*opi), ὅπλον (ἐπω), 1. ὄς (i-), ὄσσε (*ok-), ὀστέον (Hitt. *haštai-*), ὄσχη (pref. ὀ- ?), ὀτρύνω (pref. ὀ- ?), οὔθαρ, οὔλαμός (φολ-), οὔλή (f-), 2. οὔλος (f-), 4. οὔλος (f-), οὔνεκα, οὔρά, οὔρέω (f-), οὔς, οὔσία, ὀφθαλμός, ὀφνίς (f-), ὄχα, ὄχλος (f-), 1. *ὄψ (f-), ὀψέ, ὀψείοντες (ὀπ-).

III. (non-IE) ὀβρυζα, ὀγχνη (ὄχνη), ὀδόλυνθοι, ὀθόνη, ὀθόννα, ὀθρυς, οἶνος, ὀστλιγξ (p. 51 and 72), ὀστρακον, ὀστρειον (for this and foreg. see p. 51 s.v. ἀστράγαλος), ὀστρά, οὔδων.

IV. (no etym.) ὀά (interj.), ὀβρια, ὀγκιον, Ὀδυσσεύς, ὀθνεῖος, ὀθομαι, ὀϊζύς (interj.), οἶκτος (interj.), οἰμῶζω, ὀϊστός, οἶσω, οἶτος, οἰωνός, 1.2. ὀκνος, ὀξερία, ὀπέας, ὀπλή, ὀπτάω, ὀσιος, ὀσπριον, ὀστριμον, ὀτοβος (interj.), οὔδας, οὔδός, οὔλαί, οὔλον, οὔν, οὔνον, οὔροι, 2. οὔρον, 1. οὔρος, οὔτάω, ὄχθη, ὄχθοιβος.

V. (unreliable) ὄα, ὀδύσ(σ)ασθαι, 2. οἶη, οἶμη, οἶμος, οἶρων (Skt. *śīra-*), ὀκλάζω (pref. ὀ-), ὀξύα, ὀπάζω, ὀπᾶων, ὀπηδός, ὀπίς, ὀπός (s- ?), ὀπώρα (*op(i)- ?), ὀσφραίνομαι, ὀσφῦς, οὔ, οὔρανός, ὄφισ, ὀχθεῖν (ἐχθος), ὄψον (pref. ὀ-).

VI. ὄαρ does not have a certain etymology; ὀ- may be a prefix, cf. ἄκοιτις. ὀβελός ὀδελός seems to point to -g^hel-; foreign origin is probable, see p. 193 f. ὀβριμος stands beside βριμός and ὀμβριμος, which does suggest non-IE origin.

ὀδάξ. Bechtel, *Lex.* pp. 241 ff., demonstrates that the original meaning is 'grasping, scratching' and that it was not connected with ὀδών until later. This same meaning may be found in ὀδάξω ἁδάξω ἁδαχάω etc. That would give a stem ὀδαχ-/ἁδαχ-. There is no convincing IE etymology. The interchange ἁ-/ὀ- is reminiscent of non-IE origin. See Add.

ὀδύνη, Aeol. ἐδύνας. If Frisk's derivation of Arm. *erkn*, gen. *erkan*, from *ed-*me/ōn* is correct, the Greek word will be a derivation of the apophonic form *ed-un-; cf. also Skt. -ad-van- 'eating'. Ὀδύνη must in that case be based on assimila-

tion; various cases are known of $\varepsilon > o > u$ (Schwyzer, p. 255). PIE **od-μē/ōn* is not plausible. We thus have here PIE full grade (in view of the Indian form; the Armenian may also go back to *dμ-*).

ὀδών, Arm. *atamn* as against Skt. *dán* etc. points to prothetic vowel. If Aeolian ἔδοντες is the original form, the connection with ἔδω becomes easy: if this had laryngeal (**h₁ed-*), the word for 'tooth' originally had the form **h₁dōn(t)* (**h₁déntn̥i* **h₁dhtós*); ὀδών is then based on assimilation. Hittite has no *h*: *e-it-mi*. It has been supposed (Hendriksen, *Unters.*, pp. 51 and 72 ff.) that the *h* has disappeared here on analogy with the plural form, in which the laryngeal was vocalized in the zero grade: *a-tu-e-ni*, *az-za-aš-te-ni* [*atsteni*], *a-da-an-zi*. This interchange *e/a* is, however, also found in words where it cannot be of that origin (*še-eš-zi ša-ša-an-zi* 'to sleep', *ú-e-eš-tin* (2 pl. imp.) *wa-aš-ša-an-zi* 'to dress'). Hendriksen ascribes the latter to a kind of vocalic harmony, which does not convince me, as long as it is not also demonstrable elsewhere in Hittite. When he finally concludes from the fact that this vocalic harmony is absent in *a-tu-en-i*, *az-za-aš-te-ni* that the *a* here must therefore go back to vocalized laryngeal, he forgets that the same forms (1 pl. *-ueni*, 2 pl. *-teni*) occur with each verb (so that vocalic harmony is also improbable there) and that here too allowance may be made for the effect of analogy (*ad-* in 1 and 2 pl. from 3 pl.). In addition, the *a* may go back to PIE *e*. One cannot therefore say that Hittite points to laryngeal, although the possibility of a laryngeal is not entirely excluded by the Hittite data either.

However, it is also conceivable that the word for 'tooth' originally had *h₃* — and therefore is not cognate with ἔδω — and that the Aeolian form is based on secondary transformation under the influence of ἔδω. This interpretation is perhaps suggested by *ὠδός*, p. 110, and *αἰμωδέω*, from which it emerges that ὀδ- was the basic element; for the connection with ἔδω the participle form is essential. Finally, the parallelism with the forms in the previous lemma is striking. It is conceivable that the one group has influenced the other.

οἶφω as against Skt. *yábhati* is easy to understand as **(h₃)eibh-* : *(h₃)iebh-*; compare the suggested solutions in Frisk. For **h₃iebh-* in Greek see p. 97. If the *o*-vocalism goes back to a root present **oibhmi*, there is no reason to assume a laryngeal; cf. p. 131.

ὀπιπεύω see p. 129 (PIE **opi-h₃k-*).

ὀπιώ is uncertain; neither cognate with Skt. *púsyati* 'to cause to thrive', nor with Lat. *puer puber*. The closest connection is with Etr. *pui(a)* 'woman' (Brandenstein, *REIE* 1.308). In that case the *o-* will also have originated from the substratum language; there is no reason to assume Greek prefixing of a substratum word.

ὀπωπα see p. 122.

ὀταλος (A.) is interpreted as (pref.) *ō + tlh₂* - 'to suffer, tolerate'. It must then be assumed that the laryngeal has disappeared (**o-tl̥h₂-os* would have given **οταλος*); for this disappearance see p. 242. The etymology is, however, too unreliable, like that of ἄταλος.

3. ὀφέλλω (Hippon.), Arm. *avelum* 'sweep' may be **h₃bhel-*. This form is also possible for 2. ὀφέλλω 'to increase' beside Arm. *y-avelum* 'to grow' and ὄφελος, for which a PIE stem form **obhel-* would be very unusual (cf. Schwyzler, p. 512). The connection with Skt. *phála-*, *phalati* is very uncertain on account of the *ph*. The same interpretation also remains possible for ὀφείλω. The *φ*- of φοφληκόσι (Arc.) is probably not etymological (Fraenkel, *Philologus* 97 (1948) 62), which also emerges from Myc. *operosi*. The explanation by Szemerényi, *Syncope*, p. 201 f., from *op-* + *hel-* (ἐλ-) is not convincing. Lat. *debeo* < **de-habeo* is not appropriate as a semantic parallel; *de-* seems to be essential in this.

ὀφρῦς, Skt. *bhrū-* etc. presupposes **h₃bhru-h-*; cf. p. 171.

Conclusion. — Prothetic vowel is probable for δδών ὀφέλλω (2×) ὀφείλω and ὀφρῦς. Ὀτλος is very uncertain. Ὀβελος ὄβριμος ὀδάξ and ὀπνίω are probably non-IE.

There still remain the words in which prothetic vowel before *φ* may be suspected. Such words have been pointed out above. They will be discussed here in the order α*φ*-, ο*φ*-, ε*φ*- (sic).

p. α*φ*-

ἄλῆς ἄλής (Ion.), Aeol. ἀολλής is interpreted as ἄ-(ᾶ)-copulative + φαλ-v-/φολ-v- with the zero grade of *φελ-* in εἴλω, cf. (ἄλις) γάλι· ἱκανόν Hsch. (i.e. φαλ-). However, in that case one could expect ὀ- instead of ἄ- in the Aeolian form. Perhaps Dor. ἀ(φ)λανέως also belongs here. The full grade in ἀελλής Γ 13? The formation is unclear; one would expect **ἄ-φελ-ής*; see Frisk.

ἄγνυμι. After preverbs in -α (-α-φα-) > -ᾱ-, which was spread from there. For ἔαγη see Chantraine, *Gr. Hom.*, p. 18.

ἄεθλος, Arc. <ἄ>φεθλα (IG 5:2,75). The connection with Goth. *wadi*, OIcel *veð* 'pledge', Lat. *vas*, basic meaning 'to tie, bind; connection', remains semantically difficult (but cf. Dutch *wedstrijd* 'contest', in which the idea of 'pledge' is entirely lost). A difficulty is also offered by the vocalism, Lat. *vas*, Germ. **wadjā-*. Hitt. *huitiāzi* 'to draw (the bow)' (Hammerich, *Lar. b. Son.*, p. 6) does not belong here, since the basic meaning is 'to draw'. In itself **h₂medh-* is highly feasible. See Add.

ᾄειδω. For ἀδῆ: Skt. *vādati* 'to speak' the analysis **h₂eu-d-* : **h₂med-* is an obvious one; see p. 89. However, ᾄειδω cannot be derived from this. Wackernagel's **α-φε-φδ-εῖν* > **α(φ)ειδεῖν* is rightly rejected by Frisk on the strength of ἀλαλκεῖν, i.e. if the ᾶ- forms part of the stem (and therefore is not a prothetic vowel in the strict sense, as Wackernagel's explanation presupposes), **h₂me-h₂ud-* can only give **αφαιδεῖν* (**αφαιδεῖν*). Origin from the aorist is not obvious for 'to sing' either (one would also expect a differentiated form for the present) and there is no trace of this aorist: one finds φ 441 ᾄεισε. Consequently ᾄειδω must be interpreted as **h₂u-ei-d-* (beside **h₂u-ed-/h₂eu-d-*). Ἀοιδός also points to this; there is no reason why this

should not be an old ablaut. Winter's explanation, *Lg.* 26 (1950) 365-70, of ἀείδω as secondary ablaut, based on a perfect *ᾠοιδω < *Aw-Aowd- (!), does not deserve serious consideration.

ἀείρω. It is not necessary to assume two words of different origin. See Frisk's hesitation with reference to κατήγορος κατωρίς and ἄορτή. The basic meaning is more or less 'to hang up, tie to'. The derivation of ἀείρω from ἀήρ is very unsatisfactory. For ἀείρω the interpretation *h₂uer- imposes itself. For the connection with Alb. *vjer* 'to hang up' and Lith. *sveriù sveĩti* 'to weigh' see p. 85.

ἀέλιοι· οἱ ἀδελφᾶς γυναικᾶς ἐσχηκότες Hsch. OIcel. *svilar* (pl.) 'idem' gives a stem *s₂uel-. Perhaps εἰλίονες is also derived from this with metrical lengthening (cf. εἰνατέρες). Derivation from *s₂ue is meaningless. The paraphrases σύγγαμβροι ὁμόγαμβροι συγκηδεσταί are perhaps an argument for α-copulative. And yet *h₁uel- > *ē(F)el-/ā(F)el- deserves consideration.

ἀέξω beside Goth. *wahsjan*, Skt. *vakṣáyati* etc. contrasts with Goth. *aukan*, Lat. *augeo* etc. as *h₂ueg(s-) : h₂eug(s-) with zero grade *h₂ug(s-) in Skt. *úksant-*, *ugrá-* etc. Cf. p. 89.

ἄεσα (νύκτας) 'to pass (the night)' beside Skt. *vásati*, Goth. *wisan* points to *h₂ues-, which is confirmed by Hitt. *hu-i-iš-zi* [*hwiszi*] 'he lives'. These words cannot be separated from αὐλή αὐλῖς (cf. αὐλίζομαι), *h₂eu-l- (cf. p. 127) and ἰαύω < *h₂i-h₂eu- (cf. p. 129), with Arm. *aw-t* 'place for spending the night', *aganim* 'to spend the night'. For Hsch. ἄιες αἰέσκοντο see Latte's edition.

ἀηδών 'nightingale' perhaps as lengthened grade *h₂uēd- of *h₂ued- beside *h₂u-ei-d-; *supra* s.v. ἀείδω.

ἄημι, Skt. *vāti*, OCS *vějō* etc. shows *h₂ueh₁-; *hu-* is confirmed by Hitt. *hu-u-wa-an-te-eš* [*hwant-*] 'winds'. This form (with Lat. *ventus*, Goth. *winds*, Toch. A *wānt*) is, however, based on another root enlargement, *h₂u-en-. A basic form *h₂ueh₁-nt- would have given Skt. *vānt-, and if one wants to start from *h₂ueh₁nt- for *vāta-*, one would expect Goth. *wiunds (an opinion shared by Hendriksen, *Unters.*, p. 50 n. 1). For OHG *wetar*, OIr. *feth* 'air' a form *h₂u-et- is necessary, to which ἀετμόν ἄετμα may also go back; ἀετμή is unclear (*h₂ue- ?). For ἄελλα (Aeol. αὔελλα) W. *awel* points to full grade of the root.

ἄήρ (αὔηρ, ἀβήρ) as against αὔρα may go back to *eh₂-u-ēr : h₂-eu-r-. For the first structure cf. *eh₁-t-mō(n) *h₁-t-men-ós, Skt. *ātmā tmānaḥ*. For αὔρα *eh₂-u-r- is also possible. These constructions are no more than phonetic possibilities.

αἰετός on account of αἰβετός· ἀετός. Περγαῖοι Hsch. from *αιφετός. This stands for *αφι-ετο- and is cognate with Lat. *avis* etc. This is also suggested by W. *hwyad* 'duck', which may go back to *auīetos. Lat. *avis*, Arm. *hav* as against Skt. *vīh*, Av. *vīš*, Skt. *vāyas-* 'poultry' point to laryngeal. Lat. *avis* etc. must, however, be *h₂euī-. This points to a (proterodynamic) inflexion *h₂éui-s *h₂uēi-s (Kuiper, *Notes*, pp. 61 f.). There is thus no reason to call the ā- in αἰετός prothetic, especially having regard to the Celtic forms, which must go back to full grade.

αἰσθάνομαι has been connected as ἀφισ- with *audio* < *au(i)s-d- (not from

**aus-d-* on account of *oboedio*, which in that case is more likely to have been **obūdīo*, WH). Although ἀφισ- suggests **h₂uis-*, Latin would require **h₂ey-is-*. Skt. *āvati* ‘is pleased, promotes, protects, refreshes’ (Szemerényi, *Syncope*, p. 217) does not belong here.

ἄστυ < **ῥαστυ*, Skt. *vāstu*, is usually connected with ἄεσα, *vāsati* etc., to which there are objections on account of the absence of a prothetic vowel. The α of the stem in Greek is also striking.

2. ὄσπος ‘sleep’ (Sappho 57) beside ὄρος (Call., Hsch., *EM*). Is ὄρος based on contraction? Formally a connection with ὠτέω is difficult, and in any case the meaning of this word is not certain.

ὄλκα see p. 40 s.v. ἄλοξ and App. 2.

Conclusion. — Ἄγνυμι ἤρ αιετός ἄλης and ἄστυ do not have prothetic vowel. Prothetic vowel is probable in ἄεθλος ἀηδών ἀεῖδω ἀείρω ἀέξω ἄεσα ἄημι; it is conceivable in αἰσθάνομαι, and perhaps also in ἀέλιοι. Ἄωρος ὠτέω and ὄλκα are unclear.

q. οφ-

Two forms may have a prothetic vowel ὀ- before φ.

οἴγνυμι, Aeol. δείγην and Hom. ὠἴγνυντο suggest a stem ὀφειγ-. However, it is not permitted to replace ἀναοίγεσκον in Ω 455 by *ἀνοφειγ-. The structure of this stem makes prothetic vowel probable, which the connection with Skt. *vejate vījate* ‘to retreat’ would confirm. **H₃ueig-* is therefore possible.

οἴομαι on account of ἀνώϊστος (Φ 39) may be from ὀφισ-, which may go back to **h₃uis-*. (Szemerényi, *Syncope*, pp. 217f., connects it with Skt. *āvih* etc. ‘clearly’ as **ōuis*, which is mostly associated with αἰσθάνομαι. If *āvih* is connected with OCS *ěviti* ‘δευκύναι’, the basic form was *ēu-*.)

r. εφ-

ἔδνα perhaps belongs with OE *weotuma* (< **med-mon-*); Russ. *věno* ‘purchase price for the bride’ may also be connected with ὄνος, Lesb. ὄννα, Skt. *vasná-* ‘purchase price’.

Only Homer has a form with prothetic vowel; the word does not occur very often elsewhere (A., E., Pi.; Call., Theocr.), doubtless because the institution disappeared. Homer has seven forms with and seven without ‘prothetic vowel’:

ἔδνα	Π 190 X 472 λ 282	ἐπεὶ πόρε μυρία ἔδνα
	Π 178 τ 529	πορῶν ἀπερείσια ἔδνα
	λ 117 ν 378	μνώμενοι ἀντιθεὴν ἄλοχον καὶ ἔδνα διδόντες
ἔεδνα	α 277 β 196	οἱ δὲ γάμον τεύξουσιν καὶ ἀρτυνέουσιν ἔεδνα
	π 391 φ 161	μνάσθω, ἔέδνοισιν διζήμενος
	ζ 159	ὅς κε σ’ ἔέδνοισι βρίσας
	θ 318	ἀποδώσει ἔεδνα
	ο 18	ἐξώφελλεν ἔεδνα

It is difficult to draw a conclusion from this. The *Iliad* only has the formula πόρε/ πορῶν ...-α ἔδνα. The *Odyssey* has ἔεδνα, apart from καὶ ἔδνα (λ 117 = ν 378, where it is striking that λ 282 also has the *Iliad* formula with ἔδνα; this suggests -α ἔδνα II. > λ 282 > λ 117 = ν 378). This leads to the idea that -α ἔδνα stands for -' ἔεδνα (μυρί', ἀπερείσι'). That ἔεδνα is the original form is confirmed by ἔεδνόομαι (β 53) and ἔεδνωτής (N 382). If this analysis is correct it would seem that ἔδνα is an artificial form. (A. Pr. 559 ἔδνοις — which incidentally is based on a conjecture — may, if it goes back to ζ 159 (Groeneboom *ad loc.*), be based on an incorrect split (σε ἔδνοισι).) If this is so and ἔδνα is not based on a reality in the spoken language, the aspiration must also be artificial and must perhaps be attributed to the Alexandrine scholars, cf. Chantraine, *Gr. Hom.*, p. 188. (For the principle of false word division in general see e.g. Leumann, *Hom. W.*, pp. 48 ff.).

A special problem is presented by ἀνάεδνος (I 146 = 288 (122-57 = 264-99) N 366). With ἀνα- instead of ἀ(ν)- (Schwyzer, p. 432); 'not with many ἔδνα' with α-copulative, cf. ἄεδνον ἄφερνον ἢ πολὺφερνον Hsch. (*idem, ibid.*); -αεδνος with prothetic vowel α instead of ε or incorrect transmission of *ἀνέεδνος (Chantraine, *Gr. Hom.*, p. 182)? Did the form come into being through a false word division in ἀπερείσια ἔδνα and μυρία ἔδνα? One is incidentally reminded of ἔερση, ἔρση, (Cret.) ἄερση; see below s.v. ἔερση.

εἶδομαι. The participle εἰσάμενος is said to have a prothetic vowel in opposition to εἰσάμενος, Chantraine, *Gr. Hom.*, p. 182. There is no trace of prothetic vowel in any of the cognate forms (in Homer εἶδεται 6×, -όμενος -η 13×, εἶσαιτο, διαείσεται, εἶδος *passim*, εἶδωλον 13×; the ε- of εἰσώ and εἰσατο, 16×, is an augment).

There are eight cases of εἰσάμενος, nine of ἔεισάμενος. In λ 241 there is a varia lectio τῷ δ' ἄρα εἰσάμενος, so that this place will be left out of consideration for the time being (8 : 8 remains). If we examine these cases, ἔεισάμενος proves to occur only in a fixed pattern: τῷ μιν ἔεισάμενος προσέφη + epithet + name of a god (or supernatural being, θεῖος Ὀνειρος B 22). Variants are τῇ, εἰσαμένη and προσεφώνεε (this B 22 Γ 389). On three occasions the verse ends with Διὸς υἱὸς Ἀπόλλων (Π 720 P 326 Y 82), and once with ἐκάεργος Ἀπόλλων (P 585; missing from many manuscripts). Further one finds B 795 πόδας ὠκέα Ἴρις, Γ 389 δῖ' Ἀφροδίτη and ζ 24 γλαυκῶπις Ἀθήνη.²¹ This situation strongly suggests that this formula has developed through a false word division. Bekker, *Hom. Blätter* I, p. 156, already suspected that the form is recent. According to Solmsen, *Unters.*, p. 250, it served to avoid a στίχος λαγαρός, which in itself is not an adequate explanation. The cases of εἰσάμενος elsewhere in Homer cannot have been the example here (if only because this one formula is concerned here): three times at the beginning of the verse (N 45.216 P 555), three times |ἀνέρι (φ)εἰσάμενος (Π 716 P 73 Φ 213), Στέντορι (φ)εἰσάμενος

²¹ If one studies these cases the formula προσέφη Διὸς υἱὸς Ἀπόλλων seems the oldest. Προσεφώνεε is a metrical variant (B 22 Γ 389).

(E 785), ἱππῳ (φ)εἰσάμενος (Y 224). (Noteworthy is (φ)εἰσ- Π 716: εἰσ- Π 720; cf. Y 82 : 224.)

If we want to reconstruct the original form we are therefore looking for τῷ C̣ε φεἰσάμενος, i.e. a group of sounds that begins with a consonant, whose first syllable is short and whose second (perhaps independent) syllable ends in ε. The closest equivalent of μιν is *(φ)ε, and one could therefore assume τῷ C̣ε *(φ)ε φεἰσάμενος. Compare for the use of 'to speak to (πρός)': ι 258 ἀλλὰ καὶ ὥς μιν ἔπεσιν ἀμειβόμενος προσέειπεν and ε 96 καὶ τότε δὴ μιν ἔπεσιν, etc., where, to restore the φ of φέπος, *φε φέπεσιν is presumed, Chantraine, *Gr. Hom.*, p. 119 (although it is not automatically evident that an older form is the basis here). As *φε arose from *sμε, one would expect that it would make position. This is, however, only so in some forty of the over 800 (?) cases (*op. cit.*, pp. 146 ff.). It is tempting to posit τῷ μὲν *φε φεἰσάμενος, but it is not probable that *φε would not have lengthened preceding μὲν. The possibility of δέ then remains. One can imagine the following development: τῷ δέ *(φ)ε φεἰσ- > τῷ δέ εἰσ- > (? τῷ μὲν εἰσ- >) τῷ μιν εἰσ-. Compare for the transition from the second to the third phase μὲν οἱ for older δέ *φοι (? *op. cit.*, p. 147). For replacement of δέ by μὲν see further Hoekstra, *Modifications*, pp. 35 and 56 ff. Δέ is normal in these locutions, cf. for instance Π 706.744 P 18 and formulas like ὀχθήσας δ' ἄρα εἶπε πρὸς ὃν μεγαλήτορα θυμόν and τὸν δ' ἀπαμειβόμενος προσέφη.

As regards λ 241, it is tempting to assume τῷ δ' ἄρα φεἰσ-, because the verse does not have the exact formula τῷ μιν εἰσ-, etc. And yet τῷ δ' ἄρ' εἰσ- may be a first step towards a freer use of the doublet. For example, one finds in ζ 24 a varia lectio εἰδομένη. B 795 αρ εἰδομένη P⁴⁰ will simply be an attempt at restoration. It is, however, possible that the present is original, εἰσαμένη 'restored' on the example of the other places. Pi. N. 10.15 (and Arat. 395, A.R. 4.221, Q.S. 3.590) may be based on this. [Theocritus] 25.58 has a further extension, εἶδεται.

It therefore seems probable that εἰσάμενος is an artificial form from the language of the epic, which is of no value to comparative linguistics.

εἴκοσι is explained by *ἐφῖκοσι, ἐέικοσι as the old form with graphic ει for ι under the influence of the contraction. Chantraine, *Gr. Hom.*, p. 128, 182, 260, has a different point of view: εἴκοσι in Homer points to φ, i.e. graphically for *φῖκοσι.

When the distribution in Homer is considered, there proves to be a preponderance of ἐέικοσι (27×, including εἰκοστ-) over εἴκοσι (17×, including εἰκοστ-). The use of ἐέικοσι does not seem to be tied to a single rule. However, the occurrence of εἴκοσι is limited:

nine times after καὶ (B 510.748 Λ 25 N 260 β 212 = δ 669 ι 241 κ 208 π 249)
four times ἥλυθον εἰκοστῷ ἔτεϊ ἐς πατρίδα γαῖαν (π 206 τ 484 φ 208 ω 322)
twice at the beginning of the verse (β 355 ε 244)
ε 34 ἡματι κ' εἰκοστῷ init.
ι 209 ἀνὰ εἴκοσι.

It seems to me that a ɸ is only weakly attested to here. At the beginning of the verse no ɸ needs to be assumed. There is no reason to omit κ' in ε 34. In the formula ἤλυθον εἰκοστῷ ɸ is impossible. Bekker read here ἤλυθον ἐεικοστῷ. Hoekstra, *Modifications*, p. 52, suggests that it is a replacement of ἤλυθε ɸεικοστῷ ɸέτεϊ.

This seems more probable to me, for it is not clear why an original ἤλυθον ἐεικ- should not have been preserved. Here it is of importance that one can read ἤλυθ' ἐɸεικ- instead of ἤλυθε ɸεικ-.

The reconstruction gains in probability through the following consideration. To explain the length of the ι of ἐτεϊ Hoekstra suggests πολίπορθος Ὀδυσσεύς to complete the verse. This is of course highly feasible, but cannot be further demonstrated. It would be less drastic to replace ἐς by ἦν; the 'ɸ- group then causes the length of the preceding syllable (or ɸέτεϊ (')ɸήν?); cf. Chantraine, *Gr. Hom.*, p. 146. In the replacement of ἤλυθε by ἤλυθον the form ἦν was regarded as a difficulty, and ἐς was substituted for it. It is true that in Homer there seem to be traces that originally ὅς could refer back to all three persons singular and plural, but firstly this is an archaism that probably no longer formed part of the living language at the time of the supposed replacement, and secondly at least a part of these cases may have come about through similar replacements to the ones here. (For instance, one can solve the difficulty for ι 28 by starting from an original οὐ τοι Ὀδυσσεὺς | ἦς γαίης δύναιο γλυκερώτερον ἄλλο ἰδέσθαι. Without much difficulty the whole passage here up to verse 32 can be put in the third person: 19 ἦν, 20 μέλει/μέλεν, τοῦ, 21 ναιέταεν; but this remains a remote possibility.) See Chantraine, *Gr. Hom.*, p. 273. However, it is clear that Hoekstra's hypothesis of the replacement of the third person by a first and the reconstruction of ἦν reinforce each other, the more so as the *two* problems that the verse presents in its later form can be ascribed to the *one* fact of this replacement. The reconstructed verse is remarkable: *ἤλυθ' ἐɸεικοστῷ ɸέτεϊ 'ɸήν πατρίδα γαῖαν, for it has various elements pointing to great age: (1) ἤλυθε, which in Homer seems older than ἤλυθε; (2) ἐɸικ- (ἐεικ-); (3) the ɸ of ɸέτεϊ; (4) 'ɸήν; (5) the formula πατρίδα γαῖαν; (6) the single accusative of direction. See Add.

In any case, this verse cannot be regarded as proof of ɸεικ-. Beside ι 209, where ɸ is possible, the places then remain where it follows on καί; according to Chantraine, *loc. cit.*, p. 128, these point to ɸ. In my opinion the large number of these cases is striking. It is seen that these nine places split up into two groups: καὶ εἰκοσ- – 5 ∪ seven times as against ∪ 4 ∪ in Δ 25 and π 249 (Δ 25 χρυσοῖο καὶ εἴκοσι κασσιτέροιο as against Δ 34 ἐείκοσι κασσιτέροιο; there is no reason to omit τε in π 249). In the last two cases ɸ is impossible. In the other seven cases one may assume ɸ. However, as these cases all occur at the same place in the verse, it is possible that they go back to an old 'formula', and that καὶ (ɸ)εικ- is a modernized form of καὶ ἐ(ɸ)εικ-. If this is correct in principle, then only ι 209 ἀνὰ εἴκοσι remains as support for the ɸ. Of course, this may be replaced by ἀν' ἐεικ-, but that is arbitrary; we shall be concerned here with a recent verse (perhaps a modernization of a (formular?) ἀν' ἐεικ-).

It seems to me justifiable to conclude that in Homer ἐɸεικ- is the old form, and

εἰκ- the more recent (β 355 ε 244; ε 34; Λ 25 π 249; ? ι 209), which was introduced in a few old formulae (ἦλυθ' εἰκ-, καὶ εἰκ-, ? ἀν' εἰκ-).

It now therefore seems probable that all forms of the Eastern dialects go back to *ἐφῖκοσι (which is what Frisk argues against Chantraine). Boeot. φικάτι, Thess. ἴκατι, Pamph. φικάτι are borrowed from West Greek dialects, which also emerges from -τι (not -σι). Against this we have Dor. etc. ϕικάτι, which corresponds to Av. *vīsaiti*, Lat. *vīginti*. It thus remains uncertain whether these forms go back to **h₁μῖk-*; in West Greek the laryngeal would not have been vocalized in that case. If this is correct, the reconstruction **dμῖk-* no longer applies; even if it is assumed that the *d* disappeared back in the proto-language, this cannot be combined with **h₁μῖk-*. Comparison with ἐ- of ἑκατόν is incorrect, since here the same form is found in Doric too.

εἰλέω. Everything in Homer points to ϕ; cf. Cret. καταφελμένος and the widespread stem **μel-*, WP i. 295f. There is only one form with 'prothetic vowel' in Homer, Φ 295. One could read ϕέλσαι here instead of ἐέλσαι, but the whole passage is definitely late. Compare the strange use of Ἰλιόφιν in the same verse; cf. Leaf *ad loc.* It therefore does not seem impossible that the form has been created by analogy with (ἐ)έλδομαι (ἐ)έλπομαι (and perhaps also under the influence of the perfect ἐελμαι). Cf. Chantraine, *Gr. Hom.*, p. 130 and 181 (but εἰλίσσω can stand for ἐλίσσω by analogy with εἰλέω: Frisk s.v. ἐλιξ). Nor does Att. εἴλλω seem adequate for assuming a prothetic vowel. The picture becomes even more complicated with εἰλύω. Here the perfect εἰλῶμαι < ϕε-ϕλῶ- may have played an important part. The impression is gained that the form εἰλ- has spread further from this. Cf. Frisk s.v. and Chantraine, *Gr. Hom.*, pp. 131 f.

εἶλη ἡ ἔλη (Ar.) 'heat of the sun' is connected with **sμel-* in Lith. *svilti* (no disyllabic root, Fraenkel s.v.), OE *swelan* etc. The form **ϕελα* is found in Hsch. βέλα· ἥλιος, καὶ αὐγή, ὑπὸ Λακώνων. Εἶλη is explained by **ε-ϕheλα*. Must one assume **h₁μel-* beside **sμel-*? Cf. p. 85f. One is inclined to connect ἀλέη (since ρ 23) with the preceding forms on account of its identical meaning. It is, however, difficult to derive ἀλέη from **sμel-* (**sμel-* ?). The forms discussed here cannot be cognate with ἥλιος, which is based on **seh₂mel-*, if only on account of the *h₂*.

εἶργω. It appears that Homer has forms of ἐργ- beside ἐεργ-. For Attic see below. Forms without prothetic vowel have been assured for Doric by Heracl. ἐφέρξοντι, συνθήρξοντι, where the aspiration is difficult to assess (Buck, *Gr. Diall.*, p. 54).

If we study the forms in Homer, we find that the present stem ἐεργ- occurs 19× (including compounds with ἀν-, ἀπ-, δι-, προ-, συν-, the lengthened stem ἐεργαθ- and finally ἐεργνυ-) as against ἐργ- 5×. Of these, P 571 | ἦ τε καὶ ἐργομένη has a varia lectio ἦτε ἐεργομένη, while Heyne reads ἦ καὶ ἐεργομένη (as does Leaf). In Λ 437 χροά ἐργαθεν Leaf reads χρο' ἐέργαθεν. In addition one finds ἀποέργει twice (Θ 325 γ 296), and ἀποέργαθε once (Φ 599), where one may suspect ἀπεεργ-. It therefore seems probable that the present stem was originally only ἐεργ-. The isolated form

(τῆλέ με) εἵργουσι Ψ 72 could go back to μ' ἐέργουσι (Bentley) and the strange ἐρχατόωντο (ξ 15; *infra*) is in my opinion of no value to this discussion. On the other hand the aorist has ἔρξαν ξ 411 and ἐρχθεντ' Φ 282 and the perfect ἐρχαται. The explanation of these forms is difficult.

ἐρχαται. The forms ἐρχαται (Π 481 κ 283), ἐρχατο (P 354 ι 221 ξ 73), ἐέρχατο (κ 241) present many problems. Chantraine describes the forms as not old, in view of their *e*-vocalism. They belong (if from ἐέργω) to the small group of aspirated perfects (in 3 pl.) in Homer (Chantr., p. 434; Schwyzler, p. 771: τετράφαται, ὀρωρέχαται, ἐπώιχατο). None of the six places calls for Ϝ (for ξ 73 see Chantraine, *Gr. Hom.*, p. 136). Ϝ is impossible in Π 481 and κ 241; the context does not recommend the replacement of γάρ by δέ in P 354. Ἐέρχατο is regarded as reduplication Ϝε-Ϝ-. But in this place (κ 241, the only time that it occurs), a Ϝ cannot be read. In addition, ἐρχαται is said to have been created by metanalysis of ἐέρχατο as augment form (this is, for instance, the view of Leumann, *Hom. W.*, p. 179 f.). I do not believe that this is correct. The absence of Ϝ, and likewise the absence of prothetic vowel, does not point to this being cognate with ἐέργω (cf. the doubt in Chantraine, *Gr. Hom.*, p. 136: "On a l'habitude de rattacher à ce verbe..."). A stem **sergh-* may be suspected. Cf. also ἐρχατος. It could be connected with Lith. *sérġmi* and *sérġiu sérġeti* 'to guard' (this is the opinion of Fick, *Vgl. Wb.*⁴ I 562), and ἐέργω on the other hand with Lith. *veržiũ* 'einengen, schnüren, pressen', see WP i. 272 *uerġh-*.

ἐεργμένος. The perfect participle ἐεργμένος occurs at two places only. E 89 τὸν δ' οὐτ' ἄρ τε γέφυραι ἐεργμένοι ἰσχανόωσι, where there is a *varia lectio* ἐερμένοι. The meaning is not entirely clear. Ϝ- (ϜεϜεργ-) is impossible. The phonetic correspondence with M 38 is striking, νηυσὶν ἐπὶ γλαφυρήσιν ἐελμένοι ἰσχανόωντο, where there is a *varia lectio* ἐεργμένοι.

ἔρξαν. There are two aorist forms, ἔρξαν ξ 411 and ἐρχθεντ' Φ 282 (in the same passage, 295, the suspect ἐέλσαι appears). For ἄρᾱ Ϝέρξαν see p. 81.

The Attic material (Solmsen, *Unters.*, pp. 221-4) gives the same picture: εἵργ- predominates strongly, ἐργ- several times only in the aorist and ἄφερκτος (A. *Ch.* 445). Aspiration is found in non-present forms (also with ἐργ- in the aorist), but no aspiration in the present (this is based on the interchange ἀπ-/ἄφ-, κατ-/καθ-). In my opinion this points, with Homer, to ἐεργ- in the present, and ἐρξ-, ἐρχ- outside it, i.e. **h₁uerg-* and **sergh-*. However, the material does not allow of a definite conclusion. If in fact two different forms are the basis, they were evidently associated at an early stage.

εἵρερον is not definitely interpreted; from *ϜεϜερον Frisk, with semantic parallels.

ἐέλδομαι has in Homer prothetic vowel seventeen times, as against three forms without: E 481 ψ 6 (τά τ' ἔλδε(τ)αι to be corrected into τὰ (Ϝ)έλδε(τ)αι ?) and Ψ 122 ἐλδόμεναι at the beginning of the verse. In addition only ἐέλδωρ occurs in Homer (10×), and ἔλδωρ solely in Herodianus and Hesychius. One is therefore inclined to regard the forms without ἐ- as secondary; however, the cases mentioned cannot be

corrected (in Ψ 122 there is a *varia lectio* ἐλκόμεναι, to which, however, there are objections; v. Leaf). See the following.

ἐέλπομαι occurs beside ἔλπομαι in Homer, but elsewhere one finds only forms without prothetic vowel, and likewise ἔλπω (in Homer only β 91 = ν 380 (| πάντας μὲν ῥ' ἔλπει) and ἐλπίζω. Of ἐλπίς (Hom. only τ 84 = π 101 ἔτι γὰρ καὶ ἐλπίδος αἶσα) no by-form is known. Further Homer has ἔλπωρή (4×) and the proper name Ἐλπήνωρ (Od.). The old perfect ἔολπα < *φε-φολπ- does not suggest prothetic vowel (one would expect Attic reduplication, *ἐφήφολπα). In ἀελπής (ε 408) and ἀελπτέω (H 310), too, there is no evidence of prothetic vowel. In the forms of (ἐ)έλπομαι the ratio is the opposite of that of (ἐ)έλδομαι: 46 to 8 with prothetic vowel (sc. Θ 196 K 105 M 407 N 8.609.813 P 488 ψ 345; N 8 τιν' ἐέλπετο not to be replaced by τινα ἔλπετο). Twice the formula θυμὸς ἐέλπεται occurs, M 407 N 813. Apart from ψ 345 (the only place in the *Odyssey*), Ὀδυσῆα ἐέλπετο (with hiatus), φ- can be read everywhere for ἐ- (which does not mean to say that this has to be done). For K 105 M 407 N 813 there is a *varia lectio* ἐελδ-. (That K 105 is recent is evidenced by the fact that the νυν preceding ἐέλπεται has a short vowel, which only occurs further in Homer in Ψ 485; Ruijgh, *L'élém. ach.*, p. 64.) See Add.

When the last two groups are considered, one has the impression that ἐέλδομαι originally did have a prothetic vowel and ἔλπομαι did not. Both the semantic and the great formal correspondence caused the two verbs to influence one another. This explains the three forms with ἐλδ- (in the epic and Pi. O. 1.4, apart from ἔλδωρ in Herodianus and Hesychius) and the forms with ἐελπ- (only in the epic).

ἐέρση has a wide variety of forms. Homer has only ἐέρση, but beside ἐερσήεις (Ω 429) also ἐρσήεις in Ξ 348 (λωτόν θ' ἐρσήεντα) and Ω 757 (νῦν δέ μοι ἐρσήεις). In ι 222 (χωρὶς δ' αὖθ' ἔρσαι) φ is not possible; this confirms that this word, perhaps 'young lambs', is not ἐέρση used figuratively (A. Ag. 141 δρόσοι may be based on incorrect interpretation of this place). It is clear that ἐρση indicates an age category here, just as there are many separate names for animals in their early years. One also finds ἐέρσα Sappho 73(a)9 LP., <ἐ>έρσα ead. 96.12, ἔερσα Pi. N. 3.78. Then ἄερσαν τὴν δρόσον. Κρήτες Hsch. and ἀέρσην Posidipp. (P. Lit. Lond. 60); finally ἔρσα Alc. 57 Page (ap. Plut., Διὸς θυγάτηρ Ἔρσα), ἔρσα Theocr. 20.16, but ἐέρσα 2.107. The form ἐρσ- in ἐρσώδης (Thphr.), and further only in Hsch. ἐρσαῖα beside ἐρρήεντα (with Att. ρρ).

It may be wondered whether the rarely occurring ἐρση does not in part go back to an incorrect interpretation of ι 222. If one starts from **h₁uers-*, beside Skt. *varṣám* 'rain', the connection with οὐρέω becomes difficult, but cf. p. 76. The word was evidently replaced at an early date by δρόσος (since A., Pi., Hdt., still in New Greek).

ἐστία has nothing that suggests prothetic vowel.

ἐλῆρα Ψ 481 beside αὔληρα Epich. 178, ἀβληρά· ἡνία Hsch. can hardly be explained by **hulēr-*, since in that case one would rather expect **hulēr-*, which would have given *ὄληρ-. The connection with εἰλέω is difficult, since this word has no prothetic vowel. The link with Arm. *lar* 'bond, rope' is doubtful for the same reason.

It must be asked whether we are in fact concerned here with a prothetic vowel: in structure this case differs from most — if not all — other cases to the extent that it has prothetic vowel before two sonants instead of before one. The word could be of non-IE origin; cf. s.v. ἄλοξ p. 40.

εὐρίσκω may be interpreted along with Frisk as reduplicated aorist.

εὐρύς beside Skt. *urí-*, Av. *vouru-*, may be based on metathesis of **feru-*. A laryngeal gives the same difficulty as in εὔληρα (possibly **h₁uru-* > εὐρυ-). Add.

1. ἔως, Ion. ἠώς, Dor. ἄφώς from **āusōs*, Lat. *aurora*, must be based on **ēh₂-u-s-ōs* (or **h₂ēus-ōs*); it is not probable that the *u* is consonantal, **eh₂usōs*. The zero grade **h₂us-* in Skt. *usās*. There can be no question of prothetic vowel.

Mention should also be made here of a form not found under ἐ- (Chantraine, *Gr. Hom.*, p. 144 and 182 Add.):

ἴσος, Boeot. *ῑσφος*, Hsch. *γίσγον* ἴσον. This has a form in Homer with apparent prothetic vowel; this is the opinion of Chantraine l.c., for instance. However, there are various indications that this is not a real but only an artificial form from the epic language. Outside Homer there is no indication of prothetic vowel (for Mycenaean see below). All derivations in Homer have ἴσο- (-*θεος* 14×, -*μορος*, -*ομαι*, -*πεδον*, -*φαρίζω* 4×, -*φόρος*). The ratio of prothetic vowel to none is 53× : 55× (with in addition ἴσον 9× and ἴσα 8× as adverbs). This seems a practically equal distribution, but at closer sight the prothetic vowel proves to occur only in the feminine, at the end of the verse (with one exception) and in a number of fixed formulae. It occurs only with ναῦς (19×), ἀσπίς (17×), δαίς (13×), φρένας (3×) and in one separate case. One finds:

- I. 5× νηὸς εἴσης
- 2× νῆες εἶσαι
- 11× νῆας εἴσας
- 1× νηυσὶν εἴσης (δ 578)
- II. 14× ἀσπίδα πάντοσ' εἴσην (all II.)
- 1× ἀσπίδι πάντοσ' εἴση (N 405)
- 2× ἀσπίδα... πάντοσ' εἴσην (M 294 ~ Φ 581)
- III. 10× δαιτὸς εἴσης²²
- 1× δαιτὸς εἴσης not at the end of the verse (I 225)
- 1× δαιτὸς... εἴσης (θ 98)
- 1× δαίτας εἴσας (λ 185)
- IV. 3× φρένας ἔνδον εἴσας (ξ 178 λ 337 = σ 249)
- V. 1× σταφύλη ἐπὶ νῶτον εἴσας (B 765)

In addition χ 128 has a varia lectio ἐντὸς (ἐνδον) εἶσαι (for εὖ ἀραρυῖαι).²³

²² δαίνυντ', οὐδέ τι θυμὸς ἐδεύετο δαιτὸς εἴσης in A 468. 602 B 431 H 320 Ψ 56 π 479 τ 425; cf. οὐ γὰρ μοί ποτε βωμὸς ἐδεύετο δαιτὸς εἴσης Δ 48 Ω 69; further only O 95.

²³ This version is generally ignored, although it may well be the oldest. True, it is not evident what the exact meaning is, but there are other obscurities in this technical passage. Εὖ ἀραρυῖαι seems a — rather flat — replacement for solving this difficulty, while it is not clear where the version ἐντὸς

In cases I, III, IV (V) the ξ - may be omitted, which, however, gives spondee verses. In II this is impossible, but here an original πάντοσε φίσην is self-evident (so others, e.g. Ebeling, *Lex.* s.v. $\xi\acute{\iota}\sigma\eta$); cf. A 163 σοί ποτε (F)ῖσον (not at the end of the verse). In this way it seems probable that $\xi\acute{\iota}\sigma\eta$ has come into being by metanalysis²⁴ of cases like πάντοσε φίσην, after which this form was used to avoid spondees in the fifth foot in existing formulae (I, III). This was followed by a somewhat freer use, which in this perhaps unique case can be followed step by step (separation, not used at the end of the verse, νηυσὶν $\xi\acute{\iota}\sigma\eta\varsigma$ δ 578, of horses B 765), but at first always with the same words and at the same place in the verse. Only in this way is this strange form comprehensible, in my opinion. See Add.

The Mycenaean material gives nothing but difficulties. One finds *wisowopana* PY Sh 740, *Docs.* p. 378f., 412. The first part could be *wiswo*-, *ισο*-; the second part is unknown (description of plates of a corslet). However, one also finds *ewisuzoko* KN Se 1007. 1008 and *ewisu**79ko PY Va 404+, *Docs.* p. 348, 394, in which *ewisu*-* $\epsilon\phi\iota\sigma\upsilon$ - has been sought, parallel to στενύ- (κληρος) beside *στενφος etc. (it is not permitted to identify the second part with ζυγόν). This interpretation, however, must be incorrect.²⁵

Conclusion. — Prothetic vowel seems plausible in $\xi\epsilon\delta\nu\alpha$ $\xi\epsilon\acute{\iota}\kappa\omicron\sigma\iota/\epsilon\acute{\iota}\kappa\omicron\sigma\iota$ $\xi\acute{\epsilon}\rho\gamma\omega/\epsilon\acute{\iota}\rho\gamma\omega$ $\xi\acute{\epsilon}\lambda\delta\omicron\mu\alpha\iota$ $\xi\acute{\epsilon}\rho\sigma\eta$. $\epsilon\acute{\iota}\lambda\eta$ $\epsilon\acute{\upsilon}\lambda\eta\rho\alpha$ $\epsilon\acute{\upsilon}\rho\upsilon\varsigma$ are uncertain. For a general discussion of the prothetic vowel before F (and $\epsilon\phi$ in particular) see the general conclusions, p. 76 ff.

s. Survey of the Material for the Prothetic Vowel

In general it is of course possible that words with prothetic vowels have not been included in the preceding lists because they have no reliable etymology; in addition words with 'prothetic vowel' may also have been preserved in compounds which have not been found in this way. On the other hand it is possible that prothetic vowel has been incorrectly assumed; in particular non-IE words may have been included which are irrelevant to our problem. And yet the majority of the material will have been collected here and it seems justified to base a conclusion on this.

Two words that were found elsewhere may be mentioned here.

* $\acute{\alpha}\pi\epsilon\lambda\omicron\varsigma$ in $\omicron\lambda\iota\gamma\eta\pi\epsilon\lambda\acute{\epsilon}\omega\nu$ stands beside OIcel. *afl*, OE *afol* 'force' as * \hbar_2pel - beside * \hbar_2epl -.

$\eta\mu\epsilon\kappa\tau\epsilon\acute{\iota}$ δυσφορεῖ Hsch., περιημεκτέω, may have a stem * $\acute{\alpha}\mu\epsilon\kappa$ -τ- or * $\acute{\epsilon}\mu\epsilon\kappa$ -τ-

$\xi\acute{\iota}\sigma\alpha\iota$ would have come from: lectio difficilior potior. Formally, the resemblance with πάντοσ' $\xi\acute{\iota}\sigma\eta\nu$ is striking; for $\epsilon\nu\delta\omicron\nu$ cf. IV *supra* (where it may be remarked that this exactly agrees with the structure of II, unlike I and III). There is no indication of an original $\epsilon\nu\delta\omicron\theta\epsilon$ ($\epsilon\nu\tau\omicron\theta\epsilon$) $\phi\acute{\iota}\sigma\alpha\iota$.

²⁴ Perhaps influence was exerted by the frequent $\epsilon\nu\tau\omicron\varsigma$ $\xi\epsilon\rho\gamma$ - (- $\epsilon\iota$, - $\epsilon(\nu)$, - $\omicron\nu$; B 617. 845 I 404 Σ 512 X 121 Ω 544 η 88); in addition $\epsilon\kappa\tau\omicron\varsigma$ $\xi\epsilon\rho\gamma\epsilon$ μ 219. Cf. in particular $\omicron\nu\omicron\sigma$ ' $\xi\epsilon\rho\gamma\epsilon$ Ξ 349. All these locations are at the end of the verse. Cf. finally $\acute{\alpha}\psi$ $\acute{\epsilon}\pi\iota$ $\nu\eta\acute{\alpha}\varsigma$ $\xi\epsilon\rho\gamma\epsilon$ Π 395 (not at the end of the verse).

²⁵ Ruijgh, *Etudes*, p. 361, suggests reading *ewisu*- as * $\eta\acute{\iota}\phi\iota\sigma\upsilon$ -, which he thinks developed by assimilation in * $\eta\acute{\iota}\mu\iota\sigma\epsilon\phi\omicron\varsigma$. He compares $\phi\acute{\epsilon}\delta\iota\mu\omicron\varsigma$, which would have developed by dissimilation from $\mu\acute{\epsilon}\delta\iota\mu\omicron\varsigma$. However, the interchange μ/m here points more towards a substratum word, cf. p. 129, n. 57. Consequently, Ruijgh's interpretation does not seem likely to me.

as basis. However, composition with α-privative may also be considered. Frisk, II 513, is of a different opinion.

A prothetic vowel is perhaps also found in Myc. *ewepesesomena*. The text, MY Oe 127, reads: *pawea₂ ewepesesomena* WOOL 20. The first word, *pharweha*, φάρεα 'cloaks', is clear. The second word is derived by Palmer, *BICS* 2.44, from *ṽ (Cyp., = ἔπι) and ἔπω. However, there is now no longer an adequate foundation for this form *ṽ; see Risch, *Kratylos* 10 (1965) 92. Another explanation is that of εὔ ἐψησόμενα 'to be well boiled' (*Docs.*, p. 322). However, there are a number of objections to this. In the first place εὔ- is always spelt *e-u-*; for the assumed *ewakoro* instead of *euwakoro* see Ruijgh, *Etudes*, p. 360. (Whatever the etymology of εὔ- may be, the fact that it is often disyllabic in Homer makes it certain that it was so in Mycenaean too.) Further, the spelling *-we-* is in conflict with the aspiration of ἔπω: if this is old, then the *h* ought still to be present in Mycenaean, and one would expect the spelling **e-u-e-pe-*. Finally, the interpretation of the tablet as a whole is rather strange. The translation (*Docs.*) 'woollen cloaks to be well boiled' seems incorrect to me. For one would expect the ideogram for 'cloak' (*159), not that for 'wool' (*145); one finds this (*159) for instance in KN L 870, with the adjective *werweha* 'woollen'. Moreover, it seems dubious that it would be noted on these tablets that they had to go to the laundry (an attempt at another interpretation in *Docs.*), while here εὔ- too appears rather naive. (True, φᾶρος ἐνπλυνὲς is found in 9 392.425 v 67 π 173, but these are not palace records.)

I would suggest that the word be interpreted as *ewepsēsomena* 'that must be woven', with *eweps-* from **h₁webh-s-*. This root, which occurs in classical Greek only in the form ὤφ-(αίνω) (i.e. **h₁ubh-*), is known in the full grade from Germanic, ON *vefa*, OHG *weban*. That this root had a laryngeal as first phoneme is perhaps demonstrated by the following reasoning. A nasal present from this root lives on in Skt. *unābdhi* and *umbhāti*, which in the first instance point to **u-n-ebh-/u-n-bh-*. Now the nasal presents almost always have two phonemes in front of the *n*, so that these forms suggest **hu-n-(e)bh-*. (Cf. *inddhe* < **h₂i-n-dh-* on account of αἶθω (**h₂eidh-*); *unātti* 'to wetten' < **h₁u-n-ed-*, if the root is cognate with ἐφέρση < **h₁u-er-*. It may be mentioned *en passant* that in that case ὕδ-(ωρ) would go back to **h₁ud-*; that the *h₁* has been lost in Hitt. *uatar* is in accordance with other data.)

If the root is *au-* (**h₂eu-*), as the manuals usually state, the supposition ceases to apply. However, this reconstruction is not very reliable; it seems to be based almost entirely on Arm. *aud-* 'shoe', *z-aud* 'ribbon' (WP, p. 16), a by no means evident connection.

The enlargement *s* has no parallel in the other languages for this root, but cf. ἀέξω < **h₂meg-s-*, ἀλέξω < **h₂lek-s-* (with fut. ἀλεξήσ-, II.).

The — obvious — combination of the two words is found in Homer only in v 108 φάρε' ὑφαίνουσιν ἀλιπόρφυρα, θαῦμα ἰδέσθαι.

In my opinion this interpretation explains the use of the ideogram 'wool' with the word *pharweha* (in fact: 'wool to weave cloaks from').

A survey follows of the forms in which prothetic vowel was assumed.

	α	ε	ο
ρ	Ἀρεπυια ἄρήγω ? Ἀρέθουσα ? ἀριθμός	ἔρεβος ἔρείκω ἔρείπω ἔρέπτομαι ἔρεύομαι ἔρεύω ἔρευνάω ἔρέφω ἔρέχθω ἔρωή (2 × ?) ? ἐρέθω ? ἐρείδω ? ἐρῆμος	ὀρέγω ὀρίνω ὀρούω ὀρύσσω ? ὀρεχθέω
λ	ἀλέγω ἀλείτης ἀλέξω ἀλέ(φ)ομαι ? ἀλείφω ? ἀλίνω ? ἀλώπηξ	ἐλαφρός ἐλαχύς ἐλέγχω ἔλεος ἐλεύθερος ἐλεύσομαι ? ἐλήλακα	ὀλιβρόν ὀλίγος ὀλισθάνω
μ	ἄμαρτάνω ἄμέλγω ἄμέλδω ²⁶ ? ἄμαλδύνω ? ἀμείβω ? ἀμέργω ? ἀμέρδω ? ἄμητος ? ἀμολγός		ὀμείχω ὀμίχλη ὀμόργνυμι
ν	ἄνεπιός ἄνήρ	ἐννέα -ηνεκής ? ἐνήνοθε	ὄνασις ὄνειδος ὄνειρος ὄνυξ
φ	ἄείδω ἄείρω ἄέξω	ἔεδνα ἔείκοσι ἔέλδομαι	οἴγνυμι ? ὀϊομαι

²⁶ See s.v. ἀμαλδύνω, p. 42.

	ἄεσα	ἐέργω	
	ἀηδών	ἐέρση	
	ἄημι	? εἴλη	
	? ἄεθλος		
	? ἀέλιοι		
	? αἰσθάνομαι		
κ	ἀκούω		
γ	ἀγείρω	ἐγείρω	
	? ἀγοστός		
π	*ἄπελος		
	? ἀπειλή		
φ	? ἄφενος		ὀφέλλω (2×)
			ὀφρῦς
			? ὀφείλω
δ			? ὀδών
θ	? ἀθέλω	? ἔθιραι	
		? ἐθείρω	
		? ἐθέλω	
σ	ἄστηρ	? ἐν-	
	? ἀσφάραγος		

	α	ε	ο	tot.	tot.
ρ	2 (2)	10 (3)	4 (1)	16 (6)	22
λ	4 (3)	6 (1)	3	13 (4)	17
μ	3 (6)		3	6 (6)	12
ν	2	2 (1)	4	8 (1)	9
Ϝ	6 (3)	5 (1)	1 (1)	12 (5)	17
occl.	3 (4)	1 (3)	3 (2)	7 (9)	16
σ	1 (1)	(1)		1 (2)	3
tot.	21 (19)	24 (10)	18 (4)	63 (33)	96
tot.	40	34	22	96	

3. CONCLUSIONS

a. *The Consonant before which the Prothetic Vowel stands*

The first thing that attracts attention is that the prothetic vowel is much more frequent with sonants than with other consonants. Otherwise there seems to have been no limitation, since the occlusives occurring represent all categories:

κ	γ	-
π	-	φ
-	δ	θ

For the absence of the *i* see p. 95 ff.

b. *The Timbre not exclusively a*

Feder,²⁷ Harl,²⁸ Winter, Georgiev, Carnoy, Seiler, Austin²⁹ and Adrados regard only *a* as the original timbre of the prothetic vowel; the same idea was also recently expressed by Szemerényi, *Syncope*, p. 205: "(IE **rep-* developed a) prothetic vowel which, as is normally the case, was *a*" (based on Schwyzler, p. 412).

It seems to me that this idea is disproved by the facts. A glance at the survey of the material is enough to make it evident that all three vowels are well represented. It would be misleading to work with percentages here, as the material is too scanty for that and the classification into more or less probable is not a strict one and therefore cannot be binding.³⁰ But the total number of cases of *a* is certainly not so much greater that it is justifiable to regard *a* as the original timbre. The number of 'certain' cases of *a* (21) is in fact less than that of *ε* (24). However, the idea of the 'original *a*' dies hard.

For *ε* and *o* assimilation or influence of the following consonant is assumed when starting from the idea that *a* is original. However, assimilation is uncommon in Greek. The material has been studied by J. Schmidt, *KZ* 32 (1893) 321-94; the cases are given in Schwyzler, p. 255f., including various ones which are dubious. Cf. Buck, *Gr. Diall.*, p. 43f., Lejeune, *Traité*, p. 208, and cf. his index p. 348. There is even less evidence of influence of consonants on vocalism; Lejeune, *Traité*, pp. 209f. Thus Adrados posits that before *μ* and *ν* one almost always finds *o*. Whilst in the definite cases one can speak of a certain preponderance of *o*, ἀμέλγω, ἀνὴρ and ἐνεγκεῖν (-ηνεκής) are enough to guarantee the existence of the other vowels. Moreover, it is quite possible that several of the less certain cases of *αμ* do have a prothetic vowel. But the principal objection is that in four cases against two (*ov* : *av*) one cannot speak of preponderance on account of the small number (let alone in three against three, *ομ* : *αμ*). One can say no more than that with *ρ* the *ε* is very frequent and that on the other hand no case is known of *εμ*.

The possibility of assimilation cannot, of course, be denied. For instance, I can explain ὀροφή : ἐρέφω only by assimilation (see below). It may be true that with prothetic vowel *ε* the stem usually has *ε* (but ἐρωή, ἐλαφρός, ἐλαχύς; ἐρυθρός etc.);

²⁷ Unprinted thesis (Vienna) of 1920 (?), quoted by Harl.

²⁸ *KZ* 63 (1936), 1-28.

²⁹ *Lg.* 17 (1941), 83-93.

³⁰ Ruijgh, *L'élém. ach.*, p. 20, points to the dangers of this in a survey of the occurrence of ἀτάπ in Aristophanes. In works with about the same number of verses as Pax (1359) and Lysistrata (1320) a difference of frequency of 1 against 2 would give an average of 1 in 1359 or 1 out of 660 verses. These figures have, of course, no value.

opposed to this is the fact that in the same case α often occurs. It should also be borne in mind that e -vocalism in the stem is after all the most frequent case. There is hardly any evidence of correspondence between prothetic vowel o and o -vocalism in the stem (ὀρούω, ὀμόργνυμι).

With regard to the timbre of the prothetic vowel before \mathfrak{f} , Solmsen, *Unters.*, p. 266, says: "In wahrheit wissen wir ja gar nichts darüber, von welchen bedingungen es abhing ob der stimmton, der vor der artikulation des \mathfrak{u} angeschlagen wurde, sich zu ε oder α gestaltete".

Consequently practically nothing may be perceived of influence of the following phonemes on the timbre of the prothetic vowel, so that we are obliged to admit that the prothetic vowel could be ε or o as well as α .

c. *The Timbre Constant*

Another question is whether prothetic vowels of different timbre could occur with one and the same stem. There are a number of cases that suggest this. They will be discussed here.

Connecting ἀμέργω 'to pluck' with ὀμόργνυμι 'to wipe off' should be abandoned on account of the difference in meaning. Ἀμιχθαλόεσσα can best be connected with ἀμυγδάλη instead of with ὀμίχλη. The interchange ι/υ and $\chi\mathfrak{z}/\gamma\delta$ in that case points to a non-IE substratum language (see Leumann, *Hom. W.*, p. 214 n. 8). It does not seem correct to connect ἀρεπνία with ἐρέπτομαι, p. 35.

Assimilation must be assumed in a number of cases. Mention has already been made above of ἐρέφω: ὀροφή (Od.), ὄροφος (Orac. ap. Hdt. 7.140), ὑπόροφος (Il.) as against ὕψ-ε/ηρεφής (Il.), of which the second syllable evidently has another apophonic phase, i.e. $*h_1robh-$ > $*\varepsilon\rho\phi-$ > ὀροφ-. For ὀδύνη from $*\varepsilon\delta\acute{o}n\eta$ (which probably does not have a prothetic vowel) assimilation is probable. Ὀδών may therefore also be explained from $*\varepsilon\delta\acute{o}n$. In a case like ελετρυφονα (Schwyzer, p. 256) too, nobody will assume another prothesis.

A few cases more difficult to interpret remain. For instance, beside ὀμείχω one finds in Hesychius ἀμιῖξαι· οὐρῆσαι ἢ ἡχῆσαι (ἐκχύσαι Latte) ἢ ὀμιῖξαι, whilst μοιχός is also connected by some with it. This recalls the interchange to be discussed below in non-IE words, although ὀμείχω is definitely IE. Is it to be ascribed to a less civilized linguistic stratum? On account of its meaning the word may have been subject to expressive transformation. Cf. Frisk I 449 on ἔθρις ἄθρις ὄθρις ἰθρις (likewise definitely IE, while ablaut is not probable). Possibly comparable with ὀμείχω — ἀμιῖξαι is ὄναιρος — Cret. ἄναιρον, for which assimilation may also be considered (cf. Ἀνασίφορον — Ὀν- Schwyzer, p. 255; *ibid.*, p. 256 otherwise on ἄναιρον: influence of the preposition ἀνά). There are, however, still other cases in which α is found beside other prothetic vowel: ἔερση — ἄερσαν· τὴν δρόσον. Κρηῖτες Hsch. (i.e. Cretan, as ἄναιρον); further perhaps ἀέλιοι — εἰλίονες, if $*h_1mel-$. Here one could therefore assume a development to α of all laryngeals in Western Greek. See for this p. 260f.

In non-IE words which have evidently been borrowed from a substratum language an interchange may be pointed to, besides which forms without prothetic vowel also occur (cf. for this the following section): ἄστυλιγξ — ὄστυλιγξ, ἀσταφίς — ὄσταφίς — σταφίς (σταφυλή), ἀκορνός — ὄκορνός — κόρνοψ, ἀτρυγηφάγου — ὄτρυγηφάγος — τρύγη. I am not aware of cases of this kind with ε, unless Ἐρίων Ἀρίων Ὀρίφων (Schwyzer, p. 521 n. 3) belongs here. Compare with this the interchange o/a in for instance μολόχη μολάχη μαλάχη.

Some questions thus remain unanswered here. However, the cases mentioned do not seem adequate to me for assuming an arbitrary interchange a/ε/o in the prothesis with IE inherited words. In my opinion the very comparison with the non-IE forms demonstrates that. I therefore consider it justified to conclude that the prothetic vowel had a fixed timbre, either α, or ε, or ο.

d. *The Prothesis Constant*

For prothetic vowel before ɸ see p. 76 ff.

The immediately following question is whether there is an interchange of forms with and without prothetic vowel. More examples are given of this, but they are scarcely more convincing than those in the preceding section.

In the first place there is a large group with (ἄ)σC-, which seem to be non-IE: (ἄ)σπάλαξ (π/φ), (ἄ)σκαλαβώτης, (ἄ)σκάλαφος, (ἄ)σφάραγος, (ἄ)στάχυς, (ἄ)στεροπή (ἄ)στράπτω, ἀσκαλώπᾱς : σκολόπαξ, (ἄ)σταφίς (δ-).³¹ The following also appear to be non-IE: ἀκορνός (δ-): κόρνοψ, ἀτρυγηφάγου (δ-): τρύγη, ἀτταγήν : ταγήν, ἄμαρυγή : μαρμαρυγή, ὄβριμος (ὄμβριμος) : βριμός, ἄβρυτοί (ἄμβρυττοι) : βρύττος (σσ), ἀνθρήνη : θρώναξ, ἄνθρωπος : δρώψ. The same applies to ἀγρεῖφνα ἀγρίφη 'harrow' if connected with γριφᾶσθαι γράφειν. Λάκωνες Hsch.; ὀλόπτω ὀλούφω : λέπω; ἄληνής : μαινόμενος : λῆναι 'Bacchantes' and probably also ὀκιμβάζειν : (σ)κιμβάζειν.

Less clear are words like (ἄ)μαυρός, ἀφαῦρος : φλαῦρος (?); for (ἄ)λαπάζω see p. 80).

Other cases are based on unreliable etymologies, βέλος : ὄβελος (Austin), ἀδαγμός : δάκνω, ἀταλός : τᾱλῖς (Adrados, p. 347), ἀγανός : γάνος, ἀνήρ : δρώψ. (Ἐ)χθές and (ἐ)νέρε do not have a prothetic vowel. Θέλω is secondary in respect of ἐθέλω. The connection ἐρωή — ῥώομαι is improbable. That of ἀλείφω with λιπ' also seems incorrect. The form λάχεια (ι 116 κ 509) cannot be automatically identified with ἐλαχύς, as Chantraine, *Gr. Hom.*, p. 183 Add. does; see Frisk. The relation ῥοχθεῖν — ὀρεχθεῖν is also dubious. For ἄμαλδύνω — βλαδύς see p. 42. Ὀλίγος : λοιγός is more difficult. Ὀμείχω : μοιχός is comparable. See for these cases p. 75 f. However, for the form μόρξαντο (Q.S.) of ὁμόργνυμι see Frisk II 390.

Then there are cases in which prothetic vowel stands beside s movable. This is discussed in detail on pp. 82 ff. Such a situation is obvious in μέλδομαι 'to (cause to)

³¹ The examples are taken from Kuiper, *Μνήμης χάριν*.

melt' (Φ 363), OE *meltan*, OIcel. (*s*)*melta*, OHG *smelzan*, beside which Hesychius gives ἀμέλδειν· τήκειν. If the interpretation given on pp. 82 ff. is correct other cases can be explained in this way, for which cases with *s* movable cannot be pointed to. For instance, one finds beside ἀμέρδω 'to rob' in Hesychius μέρδει· κωλύει, βλάπτει and μερθεῖσα· στερηθεῖσα, ἀμερθεῖσα. For the absence of prothetic vowel in Hesychius (and other glossographers) see, however, Latte, *Prolegomena* XXX. Cf. the gloss ἱγνυντο· ἠνοίγοντο Hsch.

Although there are some difficulties here — in my opinion the most serious are μοιχός, λοιγός with perhaps ροχθεῖν and in the second place the type μέλδομαι, μέρδειν — compared with the totality of forms with prothetic vowel the material does not seem enough to support the assumption that forms of IE inherited words with and without prothetic vowel occurred side by side without any rule. Another explanation of the forms mentioned will have to be sought. With the Mediterranean words, on the other hand, this possibility certainly existed. Here one could therefore speak with more justice of "prothetic vowels", although of course we know nothing about the origin of the phenomenon within that linguistic system. Here too precisely the comparison with the interchange *a/o/zero* in the words of non-IE origin shows that the prothetic vowel is a fixed element in the IE words.

e. Final Conclusion

For many years the prothetic vowel, as an element that could be added or not in an unpredictable fashion (hence the name), was used as a *deus ex machina* for the solution of etymological and morphological problems. For instance, this was still done by Chantraine in his *Grammaire Homérique* and by Frisk. Cf. Szemerényi, *Syncopé*, p. 112: "in view of the fact that prothesis is undoubtedly found in many cases, there is no pressing need for trying to avoid it (here)". In *Morph.*², pp. 187f. Chantraine even calls the ἐ- of ἐσκέδασμαι a prothesis. This has in turn contributed to the incorrect concept of the prothetic vowel and on the other hand hampered the solution of the problems for which it was used. An analysis of the material shows that the so-called prothetic vowel in IE inherited words in Greek is a fixed element of fixed timbre, *α*, *ε* or *ο*. As almost always, there are a number of cases that seem to be an exception to the rule, but these are not strong enough to discredit the rule.

As has been clearly stated, this conclusion applies solely to prothesis in IE inherited words. In words of Mediterranean origin, on the other hand, neither the timbre nor the prothesis as such is constant (ἄσταφίς ὀσταφίς σταφίς). It must also be remarked in this connection that in these substratum words no prothetic vowel *ε* is found, while in the IE 'prothesis' this occupies at least as important a place as *α* and *ο*.

This conclusion regarding the nature of the Greek prothetic vowel in IE inherited words is of eminent importance. For the fact that this prothetic vowel forms a fixed element of the root (and therefore the stem), and the fact that it corresponds exactly to a prothetic vowel in Armenian, calls for the conclusion that a separate phoneme of the basic language is reproduced here. The strict opposition of the three

timbres in Greek suggests three different phonemes. The identification of these three phonemes with the three laryngeals, which were assumed on theoretical grounds, and of which Greek has preserved the opposition elsewhere too, is practically inevitable. One could even, without further support, postulate these three phonemes on the strength of the prothetic vowel alone. For the nature of the phoneme see p. 94 f.

There is no compelling reason to assume that PIE did not have any root beginning with *r*-. Nor is there any reason to assume that PIE *r*- would have been given a prothetic vowel in Greek, as for instance Frisk (s.v. 2. ῥέζω and ῥυκάνη) seems to do.

4. SPECIAL PROBLEMS

a. Νέφος

Νέφος has acquired a certain fame in this discussion (see for instance Lejeune, *REA* 45 (1943) 133). Kuryłowicz, *Eos* 30.208, already regarded it as a drawback to his explanation of the prothetic vowel. Νέφος has many cognates with the same root form and sometimes the same stem, Skt. *nábhas*-, Av. *nabah*-, OCS *nebo*, Lith. *debesis*, Hitt. *nepis*. But Skt. *ambhas*- 'water' is also compared with it. The ablaut **nebh-* : **embh-* (*ombh*-?) < **enbh-* is traced back according to Benveniste's scheme to **hn-ebh-* : **hen-bh-* and for **hnebh-* a Greek development **ἄνεφος* (perhaps ἔ- or ὀ-) is expected. However, this reasoning holds good only if one starts from the assumption that every PIE root began with a consonant, which has not been proved; see p. 90 ff. Here **n-ebh-* : **en-bh-* would be possible. Moreover, in view of the meaning, *ambhas*- 'water' : νέφος 'cloud', relationship is by no means certain. Skt. *ambu* 'water' therefore need not belong to νέφος either (Mayrhofer, I 45). Arm. *amb* 'cloud' may come from **ḡbho-*, as also Skt. *abhra*- 'cloud, rainy weather', Av. *awra*- 'cloud, rain', Lat. *imber*. The latter words are often classified with ὄμβρος; Frisk does this, for instance. And yet the sound law *mbh* > μβ is not tenable (cf. the words ἀμφί, ἀστεμφής, γόμφος, νύμφη, ὀμφαλός, ὄμφαξ, ὀμφή, πεμφρηδών, πομφόλυξ, σομφός; for νθ one would then expect νδ, but cf. ἄνθρωπος, ἄνθος, ἰόνθος, κάνθαρος, μίνθος, πλίνθος, σμίνθος, σπινθήρ, τενθρηδών, ὄνθος); the examples in Schwyzler, p. 333 β, strongly convey the impression that they are non-IE; this is the case with κορυφή : κόρυμβος, σκιφία : κιμβεία (Frisk s.v. κίμβιξ), ταφεῖν : θάμβος (cf. p. 177), κιθάρα : κινθαυοί, πυθμήν : πύνδαξ; cf. σκινδαρεύεσθαι/σκινθαρίζω (σκανθ-) (for the prenasalization see Introduction, p. 13). This does not necessarily imply that ὄμβρος is non-IE (which Szemerényi assumes without further argumentation, *Syncopé*, p. 249), but it does mean that it cannot be considered to be cognate with νέφος or Skt. *abhra*-.

There is consequently no reason to regard νέφος as an objection to the explanation of the prothetic vowel with the aid of the laryngeal theory.

b. Forms with and without Prothetic Vowel before o-Vocalism of the Stem

In addition to the cases mentioned, ὀλίγος : λοιγός, ὀμείχω : μοιχός, ὀρεχθεῖν :

ῥοχθεῖν (?), there is also ἀνήρ : νόρ-; cf. Kuiper, Νώροπι χαλκῷ. As this etymology is of importance to this phenomenon, it is necessary briefly to summarize his argumentation. It is not feasible to translate words like εὐήνωρ, ὑπερηνορέων, when one assumes that they have been composed with ἀνήρ. When comparing ὑπερηνορέων with ὑπερμενής, ὑπερμενέων one is led to assume a substantive *ἄναρ, *ἄνερ 'vital strength'. For the meaning of the old locution εὐήνωρ χαλκόν ('animated by a divine potency') compare ἱς ποταμοῖο, πυρὸς μένος, ἀνέμων μένος, μένος ἡελίοιο (Lucr. *fortis equi vis, vis violenta leonum*). This view is confirmed by Ved. *sūnāra-*, Av. *hunara-*, OP *huvnara-* (the length of the *ū* being explained by the laryngeal before the *n*, **h₂ner-*; see p. 93 f.), which also cannot be connected with *nar-* 'man', but must be interpreted as 'full of vital strength'. Other cognates are Ital. *ner-* (cf. *Nerio Martis*) and Lith. *nóras* 'desire, will', which has been compared with Gr. νόρεϊ ἐνεργεῖ Hsch. (so that therefore *ἄναρ, *ἄνερ could be represented by ἐνεργεῖα). This verb has probably been derived from an adjective *νώρος, preserved in νόροπι. The ending -οψ is evidently in accordance with αἶθοψ, the locution νόροπι χαλκῷ in accordance with (βῆ δὲ διὰ προμάχων κεκορυθμένος) αἶθοπι χαλκῷ (10×), in the first instance H 206 II 130 (κορύσσετο) νόροπι χαλκῷ. This therefore replaces an older *νώρον χαλκόν, which is consequently on a par (semantically) with εὐήνωρ χαλκόν. (The article gives numerous supporting details which cannot be listed here.)

It may be immediately established that, as might be conceivable in itself, νόροπι did not develop through a false word division from *ἄνωροπι, since the gloss νόρεϊ evidently reproduces an independent tradition. Loss of laryngeal in composition (this is discussed in detail on p. 242 f.), if νόρ-οπ- may be regarded as a compound, cannot be considered here either, in view of νόρεϊ.

Comparison of the above cases with ἀνήρ : νόροπι recalls Meillet's idea (*Diall. i.e.*, pp. 68 f.) that laryngeal disappeared when the stem had *o*-vocalism. This is discussed in detail on p. 238 ff. One could adduce εὐήνωρ against this, but this is not relevant. Εὐήνωρ itself cannot go back to **h₁su-h₂nor-*, since this would have given **ἔϋνορ-*. It might be assumed that εὐήνωρ is only a modernization of **ἔϋνορ* (perhaps under the influence of the compounds with ἀνήρ), but this does not seem probable, since Greek does not have a single other compound of this type (as opposed to Vedic; *sūnāra-* cannot be **h₁su-h₂nor-* either, since this would have become **sūnāra-*; one must therefore start from **h₁su-h₂ner-*). It seems probable that εὐήνωρ has been composed from εὐ + ἄνερ (i.e. ἄνερ already with Greek vowel α). On the other hand, in **h₂nor-* the laryngeal must have disappeared before it was vocalized. One therefore has the following situation:



In this scheme λοῖσθος 'last' (Ψ 536) would also fit, if it were connected with ὀλισθεῖν; however, since this alternates with a stem **slidh-*, λοῖσθος can also be explained differently (pp. 84 ff.). If ἐέρση goes with Skt. *vārṣati*, οὐρέω³² can go back to **uors-*. But μόλγος (βόειος ἄσκος Poll.) has nothing to do with ἀμέλγω.

There is not much material to show that the laryngeal was preserved with *o*-vocalism of the stem. Words like ἀλοιφή ἀλοιφῆς ἀοιδός ὁροφή may have their prothetic vowel through analogy. There remain ἀκούω ἀγοστός ἀμολγός ἐρωή ὀδών (?).

It will be clear that this problem cannot be regarded as solved. In itself it is simple to assume that in these cases the laryngeal was not vocalized, but it should then be stated when this happened and when it did not. I see no possibility of doing so at present. However, I do not believe that the conclusion of p. 73 is affected by these facts. It is not so that in words that are further identical a frequent interchange of forms with and without prothetic vowel occurs, as in those of Mediterranean origin.

c. Prothetic Vowel before ɸ

So far the words with prothetic vowel before ɸ have been left out of consideration. It is obvious to expect here the same development as with the other consonants, but the possibility of another development can never be excluded *a priori*. Thus the first thing that attracts attention here is that the parallel with Armenian is broken, ἄεσα: *gom* beside *gorc*: (ɸ)έργον, which has no trace of prothetic vowel. Armenian has PIE *u* > *g-* and *v-*, but this opposition does not go back to the basic language: "La différence ... tient sans doute à des faits de phonétique syntactique", Meillet, *Esquisse*², p. 50 (where, however, it must be borne in mind that Meillet has also ascribed the Greek prothetic vowel to such a cause). There are clear instances of **h₂u-* > ἄɸ- and **h₃u-* > ὀɸ-. Here no difficulties occur, apart from the gloss ἡνοίγοντο ἡνοίγοντο Hsch. and ἄστν, which some have tried to connect with ἄεσα.

The situation seems more complicated with **h₁u-*. There are clear examples of ἔɸ-, ἔεδνα ἔέργω ἐέλδομαι ἐέρση. However, against this is the fact that in Doric ɸίκατι the prothetic vowel seems to be lacking, while the same situation apparently occurs in Dor. *ɸελα: εἴλη, -ηερξοντι: ἔέργω, where, however, there is a possibility that the Doric form goes back to a synonym with *s-*. If one assumes that **ɸɸik-* is based on **h₁uik-* — in my opinion the possibility of another origin may not be excluded — dialectally different development should be considered here.

However, the situation becomes different if forms like ἐέρση/ἐρση stand side by side in one dialect. In our Homer text such forms do indeed alternate, but this seems to be confined to Homer. Here various possibilities occur. Firstly it is possible to

³² And yet this connection seems in no way certain. In the first place it is striking that in ἐέρση the group ɸσ has been preserved, and not in οὐρέω. Then the development ɸσ > ɸ with compensatory lengthening is by no means certain (Schwyzer, p. 285; Lejeune, *Traité*, p. 107; βούλομαι is in my opinion very uncertain; χεῖρ goes back to **ghesr-*, see for instance Schmitt, *Idg. Dichterspr.*, p. 145 ff.). Must οὐρέω be connected with Hitt. *še-e-hur* 'urine', as **soh₁ur-* > οὐρ-? In that case the absence of aspiration is unexplained, but the group οῦ- rarely occurs (only οὐ οὐνεκα οὐτος).

ascribe each of the separate forms to one of the dialects that have contributed their share to the epic language. It is, for instance, conceivable that the forms without prothetic vowel stem from Aeolic; compare ἵπος : ἱερός, infra p. 184 f. One must be prepared for the possibility that in all Greek literature the use of both forms on Homer's authority might be permitted, certainly in the case of words which had disappeared from the living language, so that one should be very careful about interpreting especially one single form in a literary dialect (e.g. in Aeschylus, Pindar, Theocritus). In epic language possible doublets were, of course, gratefully used, both by the original authors and later in order to solve difficulties caused by modernization. If, therefore, forms with and without prothetic vowel occur side by side in Homer, this in no way proves that they belonged to one dialect and that actual interchange therefore occurred.

However, a question which must first be considered is whether such cases are based on reality in the living language. In the discussion of the words in question it has appeared that these doublets are in part artificial ones. For instance, ἔιση is clearly an artificial form, as is ἐισάμενος, both having developed through a false word division in old formulas. The "Leumann method" (cf. in particular *Hom. W.*, p. 48 ff.) certainly gives the solution here. It should be stressed again that this method must be employed with the greatest caution. Every case should be considered separately.³³ Other cases are less clear. However, it should be borne in mind that the process which can still be demonstrated in the case of the two words mentioned may in other cases have been completed in an earlier stage, so that the two forms in our text of the *Iliad* and *Odyssey* could already have been used interchangeably without distinction. The development of the form ἔδνα in the epic still seems apparent. It is not probable that in Homer a form ἔρη occurs beside ἐέρση.

A starting-point for these artificial doublets may have been the occurrence side by side of ἐέλδομαι and ἔλπομαι and also — later — of εἵκοσι beside ἐεἵκοσι (infra). It may be wondered whether the interchange of forms with and without augment (ἔειπον : εἶπον) supported this development. The feeling of uncertainty is, of course, enhanced here owing to the fact that in the course of time the ɸ disappeared, so that the ἐε-(< ἐφε-) that now came into being could be regarded as a repetition of the ἐ- of the stem (κατὰ πλεονασμοῦ τοῦ ε). As a result it became comparable with for instance the diectasis (εἶ, οω) and the metrical lengthening of the first vowel (εἶ for ε) and in this way proceeded to form one of the specific peculiarities of the epic language. Cf. Hes. *Th.* 145 ξεῖς for εἷς (see West, *ad loc.*), Emp. ἐέδμεναι, *Certamen* 140 ἐειρόμενος (Solmsen, *Unters.*, p. 254).

In my opinion ἐεἵκοσι/εἵκοσι again forms an entirely different case. Here the second form stems from a later linguistic stage (εἵκοσι < *ἐφῖκοσι), not from a variant without prothetic vowel (*φεἵκοσι).

³³ For the dangers of the method see the parody given by Ruijgh, *L'élém. ach.*, p. 103: ὀφρῶς from *ὀπό φρυσί.

The situation with reference to ἔεργω is so complicated that the historical development can only be guessed at. Here again we have a confused situation which is a linguistic reality, not merely an artificial one from poetic language.

Although a few problems of detail remain here, it does not seem permissible to me to assume an interchange of forms with and without prothetic vowel before *ɸ* within one dialect.

d. *Austin's Interpretation*

A supposed interchange like ἔεργη : ἔρηγη has been explained by Austin, *Lg.* 17 (1941) 88-91, as a continuation of laryngeal + shwa secundum and laryngeal alone respectively (in his notation *Hb* : *H*). As a basis for all prothetic vowels he assumes the group *Hb*. For the moment this view may be left out of consideration. The solution which this theory renders possible for the problem dealt with here — assuming that such exists — seems attractive, but there are fundamental objections to it:

(1) it is methodically incorrect to reduce the origin of differing developments within one linguistic group to differences in the proto-language. This requires at least agreement between two languages or linguistic groups, while this in itself need not necessarily go back to an original difference in the basic language.

(2) there is no apparent reason for the difference in formation between **Abyers-* and **Ayers-*; apart from the problematic anlaut, the forms ἔεργη and ἔρηγη are absolutely identical. It is therefore not probable that there were two different basic forms here.

(3) it does not explain why this phenomenon occurs only before *ɣ*. After all, one would also expect the same difference in basic form with the other consonants.

These considerations are enough to drop this explanation. Moreover, cf. p. 94f., where it is demonstrated that the prothetic vowel does not go back to *Hb*. The alternative *Hb* : *H* then disappears.

e. *Spiritus Asper : Lenis*

Another question is that of the difference between the two representations of (as it would appear) PIE *ɰ-*, which sometimes gives aspiration and sometimes does not. The other languages have nothing that corresponds to this.

It should be stressed that Homer's text is not a reliable starting-point for spiritus asper : lenis; see Chantraine, *Gr. Hom.*, pp. 184-8, in particular 187f., for ἔρηξα from ἔρηδω, i.e. ἔρηδω, where the aspiration was introduced by the grammarians to distinguish it from ἔρηξα derived from ἔεργω.

In part the aspiration may have been caused by forms with *s* movable. However, this solution remains hypothetical as long as this *s* is not apparent in one of the other languages.

Nor can the idea expressed by Sommer, *Griech. Lautstud.*, p. 83ff., that spiritus asper appears when *s* stands at the end of the first or the beginning of the second

syllable, be regarded as an adequate explanation. Cf. Schwyzler, p. 226f., and Lejeune, *Traité*, p. 149f.

Attempts have also been made to ascribe the aspiration to the laryngeal, for instance by A. C. Juret, *Phonétique Grecque* (1938), p. 65 (as also Austin in the article discussed in the previous section). Juret assumes that $\hbar_1\mu$ - resulted in aspiration. He mentions two cases of this, ὀράω and ἔννυμι.

For ὀράω his conclusion is $\ast\hbar_1\mu\epsilon r$ - on the strength of the perfect with 'Attic reduplication', ἐώρᾱκα. This would have to be explained as $\ast\hbar_1\mu\epsilon\hbar_1\mu\omicron r > \ast\phi\eta\text{-}\phi\omicron p > \epsilon\omega p$ -. But Lejeune, *REA* 45 (1943) 131-49, in particular p. 136, posits against this that ἐώρᾱκα is the older form, ἐώρᾱκα having developed by analogy with the imperfect ἐώρων (from $\ast\eta\text{-}\phi\omicron p$ -). Ὀράω is usually linked with OHG *wara*, Goth. *wardja*, Lat. *vereor*. For the μ cf. Cypr. *tu-ra-vo-ro-se* 'θύρᾱφορος'. However, it has not been shown that ὀράω began with $\hbar_1\mu$.

ἔννυμι, Skt. *vāste*, is derived as $\ast\hbar\mu\epsilon s$ - from a root $\ast\hbar eu$ - on account of Lith. *aũti* 'to don footwear'. In view of Hitt. $\mu\epsilon s$ - this ought to be \hbar_1 . Lith. *aũti* then comes from $\ast ou$ -, and likewise Lat. *ind-uo* etc., Umbr. *anouihimu*. Arm. *aganim* does not prove *a*-vocalism (Hübschmann, *Arm. Gr.*, p. 411, from $\ast ou$ -). However, from $\ast\hbar_1\mu\epsilon s$ - one would expect prothetic vowel in Greek, to which nothing points. This reasoning, like that with reference to véφος (p. 74), is based on the idea that the IE root could begin only with consonant, an assumption that has not been proved (and in my opinion is not probable); see p. 90 ff.. One can start from $\ast eu$ - : $\ast\mu\epsilon s$ -.

The two examples are therefore no proof.

In the article quoted above in which he discusses this theory Lejeune suggests that the interchange ἔδνα/ἔδνα can be explained by means of the laryngeal theory. Here the questions arise that were discussed above (p. 76 ff.). Forms like ἰδεῖν : ἴστωρ cannot be explained in this way.

The aspiration that is found in Heracleian (-ἡρᾶζοντι : ἔἐργω) proves little, since this dialect evidently had a secondary extension of aspiration. Cf. Buck, *Gr. Diall.*, p. 54 (cf. ἡσος).

In itself the development $\hbar_1\mu > h$ - is conceivable, but clear material would have to be given for it. However, it should be borne in mind that the forms with aspiration from PIE μ are general Greek, while for $\hbar_1\mu$ - a development $\epsilon\phi$ - has been established in some dialects at least. The forms with $\epsilon\phi$ - would then have to be explained in another way, which is improbable in the context of the problem of the prothetic vowels.

f. "Laryngeal Reflexes in Homer", Austin

Under this fascinating title Austin, *Lg.* 17 (1941) 83-92, put forward an idea which, strangely enough, found some approval. It was rejected by Messing, *HSCP* 56-7 (1947) 194-6, and Cowgill, p. 119.

Austin posits that sometimes one does not find prothetic vowel where one would expect it, as in véφος; see p. 76 ff.. However, in these cases one sometimes finds

lengthening of the preceding vowel in Homer. According to Austin this is due to the laryngeal, just as the lost *s*- sometimes still makes position. Kuryłowicz, *Eos* 30.208, had already put forward this idea, but he nevertheless did not assume that an old situation had been preserved here.

According to Austin, besides νέφος, the forms λόφος, λαπάρη, λίπος λιπαρός and μαλακός belong to this category. Nikitina, *Voprosy jazykoznanija* 9 (1962) 81-3, adds ἀποφέρση and ἄρᾱ φέρξαν.

It is difficult to prove this idea, since the phenomenon, even with *sr*-, *sl*- etc., is not constant, Chantraine, *Gr. Hom.*, p. 175-8 (ἔλαβε, ἔληγε, ἀπολήγει; κατὰ μοῖραν ἔειπες fin.).

It is general knowledge that in the epic this phenomenon has been extended to cases in which *s* movable (and also laryngeal) is excluded (ὕπδ μήτηρ, δύνατῶ φέπος, *op. cit.*, p. 146). There is thus a solution for the phenomenon which makes the assumption of a second cause superfluous, if not impossible. (This criticism was already made by Adrados, *Estudios*, p. 34 n. 4.)

A more serious objection is the chronological one. While the *s*- in σμ- and the *ʃ* have here and there still been preserved down to historical times, the disappearance of the laryngeal as independent phoneme seems to have taken place much earlier. In any case it had already assumed in Mycenaean the form later known (*akere*, *grepatē*, *enewopeza*, *ereutero*; *ijero*, *anemo*, *ereta*, *rewotorokowo*; it is not clear whether *s* before sonant in Mycenaean was still spoken, since the *s*- was not written before other consonants as well (*tatomo* 'stathmos'), which is a purely graphical matter.

However, the essential point is how we are to conceive of the subdivision of 'prothetic vowel' and 'double consonant'. Originally this is, of course, a sandhi phenomenon: prothetic vowel after consonant, lengthening of preceding vowel. It is conceivable that this relation was preserved in the oldest formulae of the epic (leaving the chronological drawbacks out of consideration), but in that case one would expect forms with and without prothetic vowel from the same stem side by side. However, this is not the case (for λαπάρη : ἀλαπάζω, ἄρᾱ φέρξαν : ἔεργω see below). Moreover, one does not find the examples mentioned in old formulae.

These theoretical considerations seem sufficient to me to refute the idea. As regards the examples given, I believe that original laryngeal is plausible for none of them, except perhaps ἄρᾱ φέρξαν.

For νέφος see p. 74.

Austin connects λόφος with ἄλφος, Lat. *albus*, which is not probable semantically speaking. Cf. below.

λίπος etc. may in my opinion not be connected with ἀλείφω; see p. 40.

λαπάρη 'side' is connected with λαπαρός 'soft, slack'. The fact that Aeschylus uses λαπάξαι (λαπάσσω 'ἐκκενοῦν' since Hp.) in the same meaning as ἀλαπάζω 'to destroy'³⁴ does not entitle us to regard the stem of λαπάρη and ἀλαπάζω as

³⁴ A. *Eu.* 562 λαπαδνόν Musgrave, codd. λέπαδνον, may, if correct, not be surprising in the same author.

identical, as Frisk s.v. ἀλαπάζω seems to do; s.v. λαπαρός he is more sceptical. One has rather the impression that ἀλαπάζω, -αδνός was linked by Aeschylus with λαπαρός and transformed after it. Cf. Ruijgh, *L'élém. ach.*, pp. 74f. Austin connects λαπαρός with Skt. *álpa-* 'small' (which does not prove a laryngeal), but the cognate forms point in my opinion to *sl-*, see p. 84.

For μαλακός nothing suggests laryngeal.

ἀπὸ φέρση, -σειε Φ 283. 329 (ἀπόφερσε Z 348) has further nothing that points to laryngeal (ἀπ-ηύρα < -η-φρα proves nothing; η as augment for φ is general). Nikitina's connection with αἰίρω is not obligatory.

ἄρᾱ φέρξαν ξ 411 is one of the two aorist forms in Homer of ἔεργω; see s.v. p. 62f. It is highly implausible that so old a phenomenon, of which it would be the sole example, would have been preserved in so loose a connection (ἄρα).

The cases of lengthening before ρ λ μ ν and a few other consonants have been collected by La Roche, *Hom. Unters.*, p. 46-67. It is striking that such lengthening occurs very often after δέ τε ἰδέ and prepositions and adverbs of two short syllables, διά ἐνί κατά ποτί ὑπό. One of the few formulae is ποσσὶ δ' ὑπὸ λιπαροῖσιν (B 44 K 132 Ξ 186 β 4 δ 309 ν 225 υ 126), while on the other hand in δεινὸν δὲ λόφος καθύπερθεν ἔνευεν (Γ 337 Λ 42 O 481 Π 138 χ 124) λόφος makes no position.

Summarizing, it may be said that there is hardly any argument in favour of this view, whereas there are serious objections and the phenomenon in question can easily be explained in a different way. (In general Austin's article does not contribute to elucidation of the problem. Compared with Kuryłowicz's treatment, it means a step backwards.)

g. Hammerich's Interpretation

Reference should also be made to an idea by Hammerich, *Lar. b. Son.*, p. 9-12. This runs as follows. PIE *h̥n-*: *n-*: *sn-* became in Greek *h̥n-*: *n-*: *hn-*, the last two coinciding, so that an opposition *h̥n-*: *n-* remained. Where he finds prothetic vowel in Greek beside forms in other languages with *s* movable, ὀλισθάνω: λεῖμαξ, Russ. *slimák*, he ascribes this to a confusion between *h̥l-* and *hl-* in Greek.

There are various objections to this view. Although *hn* would have coincided with *n-*, it could nevertheless be confused with *h̥n-*. This is surprising, for in that case one would expect instead that *hn* coincided with *h̥n* or that all three had the same reflex.

Moreover, the same question of chronology arises as in the preceding section. In my opinion the development was chronologically as follows: *h̥n-*: *n-*: *sn-* > *a/e/on-*: *n-*: *sn-* etc.

Hammerich's following conclusion (p. 11) is stranger and more radical. With *r-* the situation was somewhat different. Here *sr-* > *hr-* was preserved as *ῥ-*. However, the combination *sr-* was so frequent "that it was necessary for the words with *r-* to keep clear of them. ... there was no choice for the words with *r-*: they had to fuse with the words with *Hr-*". It has still to be demonstrated that *sr-* was much more frequent than *sl-* etc., but even if that were the case, Hammerich's conclusion is by no means

obligatory: it cannot be seen why Charybdis is to be preferred to Scylla. On the strength of this he posits that for instance ἐρυθρός ἐρέφω ἐρέχθω ἐρείπω ὀρύσσω ὀπέγω, although from PIE *r-*, acquired a prothetic vowel.

In this way then he explains on the one hand prothetic vowel beside *s* movable and on the other hand prothetic vowel before PIE *r-*. This is entirely arbitrary. The author does not have the slightest argument for making the developments supposed by him plausible. And (p. 12) "On the other hand the transition of *r-* to *Hr-* was no sound law; there was a choice (but above "there was *no* choice") between two possibilities". This makes the argument as tenuous as that of Adrados (p. 29f).

Such vague assertions characterize Hammerich's whole article. For instance, he explains (p. 31) Lat. *augeo*, Goth. *aukan* and Gr. αὔξω from **h₂ug-*, which also would suggest a form **h₂ueg-* and thus a prothetic vowel in Latin etc. too. It is not feasible and also unnecessary to discuss all his considerations.

5. LARYNGEAL AND *s* MOVABLE

a. The Theories of Hoenigswald and Nikitina

Hoenigswald wrote an article under the title *Laryngeal and s Movable*, Lg. 28 (1952) 182-5, which may be of importance here. The hypothesis is entirely unacceptable to me. His reasoning is as follows.

If *s* movable is to be interpreted as a prefix, one would also expect it before a vowel. However, so far it has not proved possible to demonstrate this. Hoenigswald renews the attempt, starting from the idea that every root in PIE began with a consonant, and that therefore those which apparently began with a vowel originally had a laryngeal at the beginning. Now, with the alternatives *He-* : *sHe-*, after *s-* the laryngeal was already lost in PIE, without the allophones *e*, *a* and *o* becoming phonemes. This therefore implies that *sh₂e-* became *se-*, like *sh₃e-*, and not *sa-* and *so-* respectively (whilst the forms without *s* movable thus gave *h₂e-* > *a-* and *h₃e-* > *o-*).

Apart from the theoretical problem of prefixing in PIE, of which elsewhere no trace can be found, the starting-point, i.e. that PIE only had roots beginning with consonant, cannot be regarded as certain (p. 90 ff.). The further assumption *sh₂e-* > *se-* is entirely arbitrary and improbable *a priori*, if only in view of the Hittite forms with *ish-* (e.g. *iš-ḫa-a-i* 'to bind'; the *i-* is a prothetic vowel, cf. p. 18 n. 2). If, however, it should be proved by a number of reliable etymologies, it would have to be accepted. But the thirteen etymologies which he gives are far from reliable. He is aware of this and explains it by the fact that "the loss of laryngeal at an early period destroyed the regular relationship", after which "subsequent sound changes in the various IE dialects separated them even further". The second point is irrelevant, because it applies equally to the cases of *s* + (other) consonant, while here the forms with and without *s* are mostly entirely identical. However, the cases given here differ considerably in formation. Nor is the effect of the laryngeal in Hoenigswald's hypothesis

very great; it would give *a- : se-*, *o- : se-*, *e- : se-*. Only the first form of vowel interchange is unusual (beside which an ablaut form $\bar{h}_2o- > o- : so-$ would have existed). It cannot therefore be seen that the supposed loss of laryngeal would have had such confusing consequences.

Nobody will accept the etymology ἀραρίσκω — Lat. *sero* (ἔρμα ‘earring’ !); Lat. *ad* — **sed-* ‘to sit’ (δόδος !). Semantically unobligatory are **aġ-* ‘sharp’ — **sek-* ‘to cut’, Skt. *āpnóti* ‘to reach’ — Skt. *sápati* ‘worships’ (ἔπω), Skt. *ṛ-* with *árṇa-* ‘flowing, flood’ — Skt. *sárati* ‘hastens, flows’, ἀμάω ‘to reap’ — Av. *ham* ‘summer’, ἄμη ‘pail’ — Lat. *sentina* ‘bilge’ (but in the first instance it means ‘bilgewater’). The following seem better: ἀρκέω — ἔρκος, Lat. *anus* — *senex*, Lith. *alpstiù* ‘to faint’ — *silpnas* ‘weak’, ἄνευ — Skt. *sanutár*, Goth. *uf* ‘under’ *ufar* ‘over’ — Lat. *sub super*. Finally Gr. ὄσσε — Goth. *sailvan*, Hitt. *ša-(a-)ku-wa* [*sakua*] ‘eyes’ (but see above for Hittite). The only case that appeals is **sup* : **up*, but here there is not the slightest indication of laryngeal, nor of disappearance and the consequences assumed for it.

The theory therefore remains improbable. However, it should be remarked that *s* movable before laryngeal is of course highly possible; there is, however, no reason to assume that the laryngeal would have developed differently in that case than in others.

Nikitina (in the article quoted on p. 80) draws attention to the connection between prothetic vowel and *s* movable, partly in imitation of Klyčkov, *Processy razvitiya v jazyke* (Moscow, 1959), pp. 27f. Like Hammerich, he explains ὀλισθάνω beside IE **sleidh-* by the fact that *sl-* and *hl-* developed more or less simultaneously to *l-* and *VL-* respectively, whereby confusion occurred; see p. 81f.

There are indeed facts here which call for an explanation. Nikitina is of the opinion that in Greek forms with prothetic vowel, without it, and with *s* movable stand side by side and gives the material divided among six (etymological) units (the grouping within them is mine):

(1) μέλδω βλαδαρός; μαλακός βλᾶξ; μῶλυσ; ἀμαλδύνω ἀβλαδέως; ἀμβλίσκω ἀβληχρός; ἀμβλὺς ἀμαλός: (OE *smeltan*).

(2) λίγδην; λιπαρός; λείμαξ; ὀλίγος ὀλισθάνω ὀλιβρόν; ἀλείφω; ἀλίνω: (PIE **slei-g/b/dh-*; ModG. *schlecht*, Goth. *slaihts* ‘smooth’).

(3) —: ἀείρω ἀποφέρση: (OHG *schwer*, IE **suer-*).

(4) λαπαρός: —: (Goth. **sleps*, ModG. *schlaff*, Lith. *slabnùs*, Serb. *slabina* ‘soft part of the side’).

(5) μαράινω (Skt. *mardayati*): ἀμέρδω ἀμέργω (ὁμόργνυμι) ἀμοργός: σμερδνός (ModG. *Schmerz*, Lat. *mordeo*).

(6) μοῖος· σκυθρωπός: ἄμοιος· κακός. Σικελοί: σμοῖος· χαλεπός Hsch.

This material calls for further discussion. The last etymon loses considerably in value because it consists largely of glosses. Ἄμοιος is ascribed to the Σικελοί and may therefore very well be non-Greek (and even non-IE); cf. also σμύος· σκυθρωπός Hsch. The whole is too unreliable to serve as the foundation for a new theory.

Re 4. Whether Goth. *slepan* etc. belongs here may be left out of consideration (see Feist s.v.), but it is in fact difficult to separate OIcel. *slápr* ‘sluggish person’, OHG *slaf*

'weak' etc. and OCS *slabъ*, Lith. *slābnas* 'idem' from *λαπαρός* 'idem'. An interchange *p/b* occurs more often in these expressive words. The *p* is perhaps also found in Lith. *silpnas*. Serb. *slabina* is indeed a striking parallel of *λαπάρη*. The lengthening in Homer before *λαπάρη* (p. 80f) will therefore go back to *sl-*. A parallel is *λαγάρος* with *g*, N. *slakr* 'weak' etc. There is no reason to assume a laryngeal. It is therefore further irrelevant here. It may incidentally be wondered whether the group is in fact of IE origin.

For ἀποφέρση see p. 81. The comparison of ἀείρω with Lith. *sveriu* 'to lift, weigh', *svarūs*, OIcel. *svār*, OHG *swāri* 'heavy' is worthy of consideration.

In the second group the words with *ō-* should be separated from those with *ā-*. The interpretation of ἀλίνειν (ἀλείφειν Hsch.) presents difficulties. Skt. *lināti* may be an analogic form, *līyate* 'sich schmiegen an, sich andrücken, stecken bleiben, verschwinden', has nothing to do with ἀλίνειν. It also seems clear that λίναιμι, λιάζομαι and ἐλίνω cannot be placed in this category either formally or semantically. Nor are there sufficient reasons for connecting λείμαξ 'snail', Russ. *slimák* 'idem' with ἀλίνειν.

For ἀλείφω : λιπαρός see p. 40.

Λίγδην 'grazing' etc. is put beside OIr. *fo-sligim* 'to smear', OHG *slīhhan*, 'schleichen (gleitend gehen)', OIcel. *slīkr* 'slippery'. The *sl-* could explain P 599 ἐπιλίγδην (further in Homer only λίγδην χ 278 at the beginning of the verse). And yet this connection is semantically weak. It cannot be denied that this stem **sl(e)ig-* displays semantic similarity with both ἀλίνειν and ὀλισθεῖν etc. Nevertheless it seems dangerous to me to connect OIr. *fo-sligim* 'to smear' with ἀλίνειν. One could equally well envisage ἀλείφω or λιπαρός. In view of the uncertainty that prevails here — and will continue — it seems proper to draw no further conclusions. In cases like this it is best to conclude original identity only when there is precise agreement in form and meaning.

Feist hesitates to connect Goth. *slaihts* 'smooth' with OIcel. *slīkr* etc., on account of **slek-* : **slig-*. Semantically speaking, connection of the latter with ὀλίγος is not probable, in view of the meaning of λουγός ('ruin').

However, more clear is ὀλισθεῖν, if it is from **ὀλιθ-*, beside OE *slīdan*, Lith. *slýsti* (pret. *slýdau*), OCS *slědъ* 'track'.

Just as convincing is ὀλιβρόν ('ὀλισθηρόν, λείον, ἐπισφαλές Hsch.), OE *slipor*, OHG *sleffar* 'slippery, smooth' (N. *slipra*, OHG *slīfan* 'to slide'), for which PIE **slibro-* is assumed.

Group 5 is highly problematic. The forms ἀμέργω etc. have nothing in common semantically with the others. Whether σμερδνός is cognate with OHG *smierzān* etc. may be left out of consideration (in my opinion the original meaning of σμερδαλέος is not sufficiently known); semantically ('terrible to look upon, — to hear, fearful' : 'pain') the etymology is not imperative. There is no basis for putting σμερδνός or μαρναίω μάρναμαι on a par with ἀμέρδω 'to rob'. In that case all that remains is ἀμέρδω : μέρδει· κωλύει, βλάπτει and μερθεῖσα· στερηθεῖσα, ἀμερθεῖσα Hsch. But

see p. 73 on the value of glosses in this matter. The word has no convincing etymology.

The group under 1 is the most awkward one. In my opinion ἀβληχρός, ἀβλαδέως (ἡδέως Hsch., further unknown) and ἀμβλίσκω ('to cause to miscarry'!) are too unclear for any argumentation whatsoever. For the remaining words see s. vv. (pp. 42).

For μέλδομαι '(to cause to) melt' the connection with OE *meltan* 'to dissolve, melt' is obvious. In addition there is a form with *s* in OIcel. *smelta* etc. However, what is of most importance here is the form ἀμέλδειν 'τήκειν Hsch. not given by Nikitina. Here there is a clear case of *s* movable beside prothetic vowel in Greek.

b. *The Material*

To the cases mentioned so far we may perhaps add ἀλείτης, which was connected by De Saussure (*Mémoire*, p. 75) with Goth. *sleiþa* 'damage', OS *slīdi* 'bringing ruin, bad'. As *s*-less form of this Grienbergen, *Unters.*, p. 192f., sees OIcel. *leidr*, OHG *leid* 'übel, verhasst, feindlich', which he also compares with ἀλείτης (see Frisk). We find the same phenomenon in ἀπειλή as against Latv. *peļt*, Goth. *spill* and in ἀέλιοι beside OIcel. *svilar*. Further one may also envisage ἔλη, Dor. βέλα (φέλα) 'heat of the sun', which probably belongs with OE *swelan*, Lith. *svilti* 'to singe' (with OE *sweltan*, but not ἐέλδομαι, see Feist s.v. *swiltan*). Ἔλη may therefore come from **smelā*, but it is not certain to me that εἴλη has prothetic vowel, as Frisk claims.

We therefore have the following cases:

- ἀμέλδειν, μέλδομαι, OE *meltan*, OIcel. *smelta*.
- ὀλισθεῖν, OE *slīdan*, Lith. *slýsti*, OCS *slědъ*.
- ὀλιβρόν, OE *slipor*.
- ἀείρω, Lith. *sveriù svarùs*, OIcel. *svārr*, OHG *swāri*.
- ἀπειλή, Latv. *peļt*, Goth. *spill*, Arm. *aṛa-spel*.
- ἀέλιοι, εἰλίονες, OIcel. *svilar*.
- ἀλείτης, OIcel. *leidr*, Goth. *sleiþa*.
- ? εἴλη, ἔλη, φέλα, Lith. *svilti*, OE *swelan*.
- ? ἀμέρδω : μέρδει.

c. *Interpretation*

The interpretation of these facts — assuming that the connections established are correct — presents difficulties. It seems to me that the material given here is too slight for the phenomenon to be regarded as established.

On the other hand it is also hardly feasible to dismiss these cases as "Entgleisungen" — whatever reality may be indicated by the term. Confusion in the sense of Hammerich (p. 81f.) cannot explain why ὀλιβρόν and ὀλισθεῖν have an ὀ- and ἀμέλδειν has an ἀ-. This applies a fortiori if ἀλείτης, ἀείρω and ἀπειλή are comparable. For as the vowel

would not in that case go back to a laryngeal, one would expect that the timbre of the vowel was determined by the (following) vocalism or consonantism.

It therefore seems probable that these forms go back to one basic form (apart from the *s* movable). Austin (*Lg.* 17 (1941)) gives for ὀλιβρόν a PIE basic form **Ab(s)leib-*. As it is not certain that **slib-* has an *s* movable, it is better to transfer this interpretation to ἀμέλδεν. This would therefore give **Ab(s)meld-*, or in the view followed here **h(s)meld-*. Apart from the fact that one would expect from **hsmeld-* in Aeolic **ἄμμελδ-*, elsewhere **ἡμελδ-* (a type of which there is no trace), this presumes that the second (in Austin's interpretation even the third) phoneme of the word could or could not be present, which is particularly improbable. Such an interchange has not a single parallel in IE. In this way the problem of the *s* movable³⁵ becomes even more complicated. For it is not plausible that all cases of *s* movable go back to *h(s)-*, so that in any case a distinction would have to be made between two types.

If one is not prepared to assume that the laryngeals could act in a similar fashion to *s* movable, it must be assumed that the laryngeal in these words formed part of the stem and that the *s* movable here acts in the same way as elsewhere. This therefore gives in the case stated **shmeld-*. It might be conceivable that in this group the laryngeal was vocalized, but there is no trace of the forms to be expected in that case (although ἀμαρτάνω might be explained in that way, see p. 109). The group μέλδομαι, *smelta* : ἀμέλδεν, *meltan* can be explained only by starting from **sh₂meld-* : **h₂meld-* and assuming at the same time that in all languages the consonantal laryngeal has disappeared between *s* and the sonant. Compare for this ἱρός < **ish₁rós* (p. 184), where the laryngeal (after *s*) was not vocalized either. Juret (*Dict. etym. grec et lat.*, p. 85) assumed a similar form as the basis of ἀμαρτάνω, viz. **sh₂mert-*. Pace Polomé (*Evidence*, p. 22f., with n. 92), such a form does not seem inconceivable to me. The structure is no stranger than that of the stem of στρέφω (**strebh-*) or στρεῦγομαι (**streug-*), where one therefore finds *sTRe(R)T-*, while here *sHRe(R)T-* is presumed (with *s* movable). In Hittite, where the group *sC-* acquired a prothetic vowel *i* (p. 18 n. 2) and the laryngeal after *s* was preserved as *h*, one can point to *iš-ḫi-ja-an-zi* [*išh(i)janzi*], Skt. *syāti* 'to bind' from the root *sā-*, PIE *seh-*, which forms therefore go back to **sh₁ēti*; further *iš-ḫa-ma-in* 'song' (acc.), *iš-ḫa-mi-ja-an-zi*, Skt. *sāman-* 'song'. Here there is therefore no *s* movable.

After the above had been written I found a form as meant here in Hitt. *išḫunau-*, which is interpreted by Laroche, *OLZ* 1962, 30f. (cf. *BSL* 57,28; Friedrich, *Erg. h.* 3, 1966), as 'Sehne (im Körper), Bogensehne' and is identified with Skt. *snāvan-*, Av. *snāvarə*, Gr. νεῦρον. A (Greek or Armenian) form with prothetic vowel is not known here, but an *s*-less one is, if OHG *nā-en* belongs in this group. For the *s*- in the Greek forms (*shn-* > *sn-* > *v-*; *hn-* ought to have given prothetic vowel) see Frisk s.v. 2. νέω. The forms quoted there point in the first instance to **(s)nē-*, so that a root ending in laryngeal is expected. However, the reconstruction **(s)hneh₁-* shows that this *h₁* is an

³⁵ The most recent publication on this is by Edgerton, *Lg* 34 (1958), 445-51; like Brugmann: 'satz-phonetisch'.

enlargement³⁶ (after which a second one is possible, **shneh₁i-* in Skt. *snāy-ati*; cf. also *snāy-u-* 'Band, Sehne'), so that now allowance may be made for other enlargements than *h₁* (see for this for instance s.v. ἄημι on p. 57), e.g. **(s)hner-* (see WH s.v. *nervus*; in addition **(s)hner-u-?*) and **(s)hneu-*, to which perhaps Hittite points. (The old interpretation gave for νεῦρον etc. a basic form **snē-μ(e)r/n-*; the *u* may, however, belong to the stem and also a form without laryngeal is possible.) However, the most important thing here is that, if Laroche's interpretation of the Hittite word is correct, the group **shn-*, in which *s* is an *s* movable, has been demonstrated for the basic language as well as a Greek development *shn- > sn- > v-*. Perhaps Hittite will later provide further confirmation of *s* movable before laryngeal.

The group ἀστήρ, Arm. *astl*, Skt. instr. pl. *stṛ-bhīh*, nom. pl. *tār-ah*, is, however, even more difficult. The first two forms point to *hst-*, but Indian indicates an *s* movable, which must originally have been the first phoneme, and so points rather to *shīt-*. The only possibility seems to be a form **(s)hīt(e)r-*, of which *shīt-* then became *hst-* by metathesis. This metathesis will have taken place in the basic language, since both Greek and Armenian point to *hst-*. That metathesis took place here and not with for instance *shm-* (μέλδομαι etc.) will then have to be ascribed to the nature of the *t* (occlusive in general?). (According to this analysis the root of this word would therefore be **h₂et-*.)

6. THE TIMBRE OF THE ARMENIAN PROTHETIC VOWEL

It is important to see what timbre the prothetic vowel has in Armenian. Unfortunately a clear conclusion cannot be given here. The material now follows, arranged in accordance with the Greek prothetic vowel. See Add.

α	ἄλωπηξ	<i>aluēs</i>	ο	ὀλίγος	<i>alk^cat</i>
	ἀνήρ	<i>ayr</i>		ὀνειδος	<i>anicanem</i>
	ἀστήρ	<i>astl</i>		ὀνειρος	<i>anurj</i>
ε	ἔρεβος	<i>erek</i>		ὄνυξ	<i>elungn</i>
	ἐρεύγομαι	<i>orcam</i>		ὀφέλλω	<i>avelum</i>
	ἐννέα	<i>inn</i>		ὀφέλλω	<i>y-avelum</i>
	ἔδοντες	<i>atamn</i>			

The cases which have had *h₃* all show *a*, with the exception of *elungn*, of which the interpretation is, however, uncertain; perhaps it would therefore be as well to interpret this word differently.

The prothetic vowel that goes back to *h₂* also seems to be *a*. Here, however,

³⁶ However, the situation is complicated still further by forms like ON *sin*, OHG *senawa* 'sinew'. De Vries (s.v. *sin*) derives these words from **seh-i-* 'to tie' (Skt. *syāti*, etc.). In that case the *s* would belong to the root. The details are therefore still unclear here.

ἄλωπιξ and ἄστηρ present difficulties, so that the question is whether these words are reliable. However, another representation for \tilde{h}_2 than a is not to be expected.

The picture that the forms with \tilde{h}_1 display is very erratic. Both *erek* and *inn* seem to point to e . The strangest case is *orcam*, which seems to have developed from **o-ruc-am*. As a prothetic vowel o is found nowhere else, it may be asked whether we are in fact concerned here with a phonetic development of the laryngeal. (We might envisage a preverb, cf. Lat. *ē-rūgio*, NPers. *ā-rōγ*.) With the other forms there is no evidence of influence of the stem vocalism. Of course it might be assumed that this was only the case with the vowel that developed from \tilde{h}_1 , but this supposition cannot be verified. *Atamn*, too, could be explained in this way if the original form had \tilde{h}_1 . Here, however, it is still possible that the basic form had \tilde{h}_3 .

It goes without saying that the interpretation given here, \tilde{h}_2 and $\tilde{h}_3 > a$, $\tilde{h}_1 > e$, is far from certain, in view of the scarcity of material. Nor is the reason for this development clear. If \tilde{h}_1 became e , one would have expected $\tilde{h}_3 > o$. It is true that PIE o sometimes became a , of which the exact conditions are not known, but this will not have been the case here, since before nasal $u < o$ was expected (*Esquisse*², p. 41); the only possibility I see is that the $o < \tilde{h}_3$ had changed into a before *on* became *un*.

A study of the — more recent — Armenian prothesis before r might perhaps be illuminating here. The cases stated in *Esquisse*² are the following:

<i>er</i>	<i>erēç</i>	Lat. <i>priscus</i>	<i>ar</i>	<i>aṛu</i>	<i>*sru-</i>
	<i>erastank</i> ^c	πρωκτός		<i>arev</i>	<i>*reu-</i>
	<i>erek</i> ^c	Lat. <i>tres</i>		<i>artasuk</i> ^c	<i>*draḱu-</i>
	<i>erkan</i>	Skt. <i>grāvā</i>	<i>el</i>	<i>elbayr</i>	<i>*bhrātér</i>
	<i>erku</i>	Lat. <i>duo</i>	<i>al</i>	<i>albiwr</i>	<i>*bhréur</i>
	<i>erknçim</i>	<i>*dyei-</i>			
	<i>erkar</i>	<i>*dḗrōs</i>			

Here too it is not clear why now e , then a appears. The last two forms show that no assimilation to the stem vowel took place.

7. SUPPORT FOR THE EXPLANATION BY MEANS OF THE LARYNGEAL THEORY

Not only is it probable on the strength of the nature of the prothetic vowel in Greek itself and the correspondence with Armenian that this prothetic vowel originated from a laryngeal; this idea is confirmed otherwise, too, namely by five phenomena:

- (1) by ablaut relations;
- (2) by Hittite forms;
- (3) by lengthening phenomena in Vedic;
- (4) by the negatives with $\nu\eta$ -, $\nu\tilde{a}$ -, $\nu\omega$ - in Greek;
- (5) by Attic reduplication (with corresponding reduplication in Vedic).

The last two points demand a fairly detailed discussion and will be dealt with in two separate chapters. The first three are discussed here.

a. *Ablaut*

The ablaut forms of several words with prothetic vowel make the assumption of a laryngeal highly probable.

One of the clearest cases is $\acute{\alpha}\acute{\epsilon}\xi\omega$. In addition to this we have Skt. *vakṣ-*, Av. *vaxš-*, Goth. *wahsjan* and the ablaut variant $\alpha\breve{\upsilon}\xi\omega$, Lat. *augeo*, Goth. *aukan*, Lith. *áuhti*. The zero grade is also demonstrable here, in Skt. *ukṣ-*, Av. *uxš-*, without *s* in Skt. Av. *ugrá-*. We therefore have, apart from $\acute{\alpha}\phi\acute{\epsilon}\xi\omega$, the forms $*\mu eg-(s-) : *aug-$. As an *a* in a PIE root is suspect, like ablaut *au/u* (*au-g-* : $\mu eg-/u-g-$) it is probable that $*aug-$ is based on $*h_2eug-$, and $*\mu eg-$ therefore on $*h_2\mu eg-$. $\acute{\alpha}\phi\acute{\epsilon}\xi-$ consequently goes back to $*h_2\mu eg-(s)-$, so that it is obvious to regard the *a* as the reflex of h_2 , which also corresponds to the timbre. The zero grade *ug-*, *ukṣ-* therefore comes from $*h_2ug-(s)-$.

In this way $\acute{\alpha}\eta\delta\acute{\omega}\nu$ ($*h_2\mu\acute{e}d-$; Skt. *vádati*) : $\alpha\breve{\upsilon}\delta\acute{\eta}$ may be interpreted as $*h_2\mu\acute{e}d- : *h_2eud-$. The zero grade $*h_2ud-$ is perhaps found in Greek in $\acute{\upsilon}\delta\acute{\epsilon}\omega$ (Skt. *ud-*), although this form does not occur until late (Call.). For $\acute{\alpha}\epsilon\acute{\iota}\delta\omega$ see p. 56 f.

In exactly the same way $\acute{\alpha}\lambda\acute{\epsilon}\xi\omega$ (Skt. *rákṣati*) : OE *ealgian* < $*alg\acute{o}jan$ may be explained, $*h_2lek- : *h_2elk-$. Of Gr. $\acute{\alpha}\lambda\kappa\acute{\eta}$, which goes back to a root noun, the stem $\acute{\alpha}\lambda\kappa-$ will probably go back to the zero grade $*h_2lk-$ of the oblique cases (with a nom. $*h_2l\acute{e}k-s$ or $*h_2l\acute{o}k-s$?). For the development $*h_2lk- > \acute{\alpha}\lambda\kappa-$ cf. p. 34 s.v. $\acute{\alpha}\rho\gamma\acute{o}\varsigma$.

In the same way $\acute{\alpha}\lambda\acute{\epsilon}\gamma\omega$ $\acute{\alpha}\lambda\gamma\acute{o}\varsigma$ must go back to $*h_2leg- : *h_2(e)lg-$; see p. 39 f. $\acute{\alpha}\rho\epsilon\pi\nu\iota\alpha$ $\acute{\alpha}\rho\pi\nu\iota\alpha$ ($*h_2rep- : *h_2rp-$, p. 35) and $\acute{\omicron}\rho\acute{o}\gamma\nu\iota\alpha$ $\acute{\omicron}\rho\gamma\nu\iota\alpha$ ($*h_3rog- : *h_3rg-$, p. 37) also display the same ablaut.

$*\acute{\alpha}\pi\epsilon\lambda\omicron\varsigma$: OIcel. *afl* also fits into this scheme as $*h_2pel- : *h_2epl-$. However, here there is less certainty. *Afl* may also go back to $*opl-$ and is thus connected with Lat. *ops*, which, however, is much less convincing from the semantic point of view (an opinion also shared by De Vries s.v.). The form $-\eta\pi\epsilon\lambda-$ could also contain $*\acute{\epsilon}\pi\epsilon\lambda-$. However, the combination of these words seems reliable.

The situation is somewhat different with respect to $\acute{\alpha}\epsilon\sigma\alpha$ (Skt. *vásati*) : $\alpha\breve{\upsilon}\lambda\acute{\eta}$, $\iota\alpha\breve{\upsilon}\omega$. For the semantic side see Kuiper, *Nasalpr.*, p. 63 n. 2. Here too the *a* vocalism of the root *au-* points to $*h_2eu-$, as does the reduplication (see p. 129). With the suffix *es* one therefore gets $*h_2\mu es-$. This situation is exactly the same as that with *ago* : *gero*, $*h_2eg- : *h_2g-es-$, where Greek, however, has no representative of $*h_2ges-$.

However, this support in the ablaut is found only in connection with h_2 (apart from a special case that will be mentioned below). To realize this it is necessary briefly to reproduce the view followed here with reference to the PIE root.

On this point one can speak of a German and a French school, of which Hirt (*Ablaut*) and Benveniste (*Origines*) are the clearest exponents. The latter enjoys considerable support because Benveniste took up the laryngeal theory after Kurylowicz' interpretation of the Hittite *h* (*Symb. Rozw.*; cf. *Origines*, p. 148 n. 1). On the other hand the German school leaves the laryngeal theory out of consideration on the authority of Brugmann and Hirt.

Since Benveniste in his *Esquisse d'une théorie de la racine* (*Origines*, pp. 47-73)

elaborated and systematized Meillet,³⁷ the two approaches have been sharply opposed to one another. This is the fault of Benveniste himself, since at the only place where he states an opinion on the relation of the view which he defends to that of Hirt he says (p. 152 n. 1): “le lecteur informé verra l’abîme qui sépare notre conception de celle que M. Hirt a soutenue dans son Ablaut (et qui est symbolisée par des restitutions comme «*pelā*»)”’. It is strange that Benveniste did not see that the two theories lie at different levels, so that they can very well be combined. When he reproduces the interchange *ters/tres* as *ter-s* : *tr-es*, that is no more than a structural analysis that is useful for practical application. But if one enquires about the *origin* of the two forms, one is obliged, having regard to the paradigmatic interchanges (one need only think of λείπειν : λιπεῖν, πατέρα : πατρός, cf. Introduction, p. 11), to assume that change of stress was the reason why these two forms came into being (i.e. for instance *teres*, with *téres* > *ters* as against *terés* > *tres*). The laryngeal theory can easily be incorporated in this: *pelā* then becomes *peleh₂* with *péh₂* > *pélh₂* and *peléh₂* > *pléh₂* (> *plā*), or, in the case of laryngeal at the beginning of the word, *h₂élek* > *h₂élk* : *h₂elék* > *h₂lék*. Benveniste is right to point out that forms of the *teres* type no longer occur anywhere, but of course that proves nothing with respect to an earlier stage of the proto-language. On the one hand, therefore, *pelā* (*peleh₂*) has the advantage of collecting all forms of this stem in one formula, on the other hand the notation *pelh₂/pleh₂* (*pelā/plā*) has the advantage of giving only forms of which direct representatives are apparent.

A difference, but not an essential or necessary one, between the two theories, which has led to many fictitious proofs in the field of laryngeal theory, consists in the fact that Benveniste assumes that the PIE root could only begin with consonant (*Origines*, p. 170f.; the same view is stated in Kuryłowicz, *Eos*). It is evident that this idea suggested itself because a laryngeal often proved to have stood before initial vowel. However, there is no proof that this was always the case. Nothing obliges us to posit this. Nor is there any indication that the root of εὔχομαι, Lat. *voveo*, PIE *eu-g^hh-/u-eg^hh-*, contained a laryngeal. It was merely the desire to find the simplest possible formula that led to this theory. It should be stressed again here that no allowance need be made for this thesis, since it is unproven. It may never be used as an argument in solving problems of detail.

It seems out of the question to prove such a theory. One could only state that all verifiable cases which seem to begin with vowel originally had a laryngeal. However, the theory would have to be abandoned for good if the opposite could be demonstrated in a number of clear cases, which is probably easier.³⁸ Some points could be considered here.

³⁷ That these are in essence Meillet’s ideas is already evident from his *Introduction*, 1903¹, pp. 145-50 (practically identical with 1934⁷, pp. 173-9). Although the *Origines* are dedicated to Meillet, one seeks in vain a reference on this point. (In general it is to be regretted that French authors list so little literature.)

³⁸ On the assumption that *u-hV-* became *a-(h)V-*, I believed that I had found an argument in the form *áv-* of the negative prefix *u-*. If there were no words that began with a vowel, the form *áv-*

In Greek an interchange ε/α - would be impossible if the word originally began with laryngeal. For, whatever ablaut form the root had, the Greek vowel would either always have been ε (in the case of \hbar_1) or always α (in the case of \hbar_2). Such an interchange may perhaps be found in $\varepsilon\rho\iota/\alpha\rho\iota$ -, which must therefore be explained as $*\varepsilon\text{ri-}/\varepsilon\text{ri-}$. For both $\hbar_1\text{eri-}$ and $\hbar_{1\varepsilon}\text{ri-}$ would have given $\varepsilon\rho\iota$ -, just as both $\hbar_2\text{eri-}$ and $\hbar_{2\varepsilon}\text{ri-}$ would have become $\alpha\rho\iota$ -. (Thus the \hbar_1 assumed by Schmitt, *Idg. Dichtersprache* n. 220, is incorrect.) Further, when Cypriot $\xi\rho$ beside $\alpha\rho\alpha$ elsewhere is a reality, to which $a\tilde{r}$ and $i\tilde{r}$ correspond in Lithuanian, one must assume $*\varepsilon\text{r/or}/\text{r}$ -. More important seems to me $\xi\rho\sigma\eta\nu/\alpha\rho\sigma\eta\nu$, which will go back to $*\varepsilon\text{rs-}/\text{rs-}$ (perhaps from paradigmatic ablaut; cf. OP *aršan-* : Skt. *ṛṣa-bhā-*).

A second consideration is that the sandhi shortenings still apparent in Vedic (cf. p. 145 f.) of forms ending in laryngeal would have been impossible if there had not then been words beginning with vowel. However, here one could assume that the laryngeal at the beginning of the word had disappeared earlier than that at the end.

If our interpretation of Skt. *inakṣati* and *anákṣti* (p. 236 f.) is correct, an argument is also found here: Lat. *unguo* points to $*\text{ong}^{\text{u}}$ -, but Skt. *anákṣti* must go back to $*\varepsilon\text{neg}^{\text{u}}$ - without laryngeal, since $*\hbar\varepsilon\text{neg}^{\text{u}}$ - would have become $*\text{inak-}$. The root $*\varepsilon/\text{ong}^{\text{u}}$ - cannot therefore have had a laryngeal.

For the possible argument in Lat. *ursus* see p. 133. See also p. 197 s.v. $\nu\tilde{\eta}\sigma\sigma\alpha$, where a form $*\varepsilon\hbar_2\text{tis}$ is reconstructed without initial laryngeal.

Another consideration against the theory that every PIE root began with consonant was given by Cowgill on p. 131 of the first edition of *Evidence* (1960). If *es-* 'to be' were to begin with laryngeal, one would expect in the zero grade $*\hbar_1\text{s-}$ > Gr. $\varepsilon\sigma$ -, which leaves unexplained the 3 pl. Dor. $\varepsilon\nu\tilde{\tau}\iota$ and the part. Att. $\delta\nu\tilde{\tau}\varepsilon\varsigma$. For Hom. $\varepsilon\alpha\sigma\iota$, Myc. *eesi* and non-Att. $\varepsilon\delta\nu\tilde{\tau}\varepsilon\varsigma$ analogic extension of the stem $*\text{es-}$ is easy to understand, but the absence of the 'prothetic vowel' cannot be explained by analogy. However, in *Evidence* 1964, pp. 167 ff., Cowgill states a different opinion. According to him, Dor. $\varepsilon\nu\tilde{\tau}\iota$ was a contraction of $*\varepsilon\text{henti}$ < $*\varepsilon\text{sent}\iota$. As regards Att. $\delta\nu\tilde{\tau}$ -, the form could hardly be old on account of Myc. *apeo(te) apeasa* and might be a development of $\varepsilon\delta\nu\tilde{\tau}$ -, as for instance $\delta\rho\tilde{\tau}\eta$ for $\varepsilon\delta\tilde{\rho}\tilde{\tau}\eta$, Schwyzler, p. 253 (cf. Lejeune, *Traité*, pp. 221 f., Buck, *Gr. Diall.*, pp. 40 f.). However, Cowgill himself admits that no other cases of this development are known from Attic, while the dialects for which it is demonstrable have $\varepsilon\delta\nu\tilde{\tau}$ -. That makes this attempt at explanation a very weak one. For the Hittite forms *e-eš-zi a-ša-an-zi* cf. *edmi adanzi* p. 55. However, Cowgill wrongly suggests (p. 169) that this case is decisive for the theory discussed here. Reference may be further made here to $\varepsilon\nu\nu\mu\iota$ (see p. 79), where there is no trace of

would after all have been unable to develop anywhere and therefore could not have been introduced analogically either. I thought that I had found such forms in $\acute{\alpha}\acute{\alpha}\alpha\tau\omicron\varsigma$ and $\acute{\alpha}\alpha\pi\tau\omicron\varsigma$ (Il.). But the idea is untenable, since sonant nasal before laryngeal does not become α : $\nu\hbar_2 > \text{nah}_2 > \nu\tilde{a}$ before consonant (p. 205) and $\nu\hbar_2 > \text{an}(\hbar_2) > \nu\tilde{a}$ before vowel (p. 221). Before laryngeal too, the form $\nu\tilde{a}$ - is therefore to be expected for the negative prefix. However, perhaps it can be used for other languages. In Latin one would also expect $*\text{anV-}$ from $\nu\hbar\text{V-}$; however, there is no trace of this. In Indian *an-* for $\nu\hbar\text{V-}$ is not probable (*in(h)V-* or *a(h)V* is more likely).

the 'prothetic vowel' to be expected if the root were **h₂es-*. Finally, ὄνομα may also be mentioned. If the interpretation given here (p. 229 f.) is correct, this word has a stem **en-h₃-/n-eh₃-*.

If it is assumed that the PIE root could also begin with vowel, the ablaut forms **enĕ-* : **neĕ-* prove nothing for ἐνεγκεῖν, whether the interchange is formulated as **en-ĕ-* : **n-eĕ-* or as **eneĕ-*. The same applies to ὄνυξ, **ongh-* : **nogh-*. However, it is obvious in cases where Greek points to **ἐνεκ-*, **ὄνοχ-* to posit *h₁* and *h₃* respectively, the more so as the timbre of the prothetic vowel corresponds to that of theme I (and **engh-* does not seem to occur beside **ongh-*). However, in the case of **ombh-* : **nobh-* no Greek form with prothetic vowel is known (see p. 44 s.v. ὀμφαλός). And so there is no need either to assume a laryngeal, supposing that a form **embh-* was found beside **nebh-* : the fictitious problem of νέφος, p. 74.

Completely unfounded, for instance, is Benveniste's **h₃elk-* (ὀλκ-) : **h₃lek-* (ὀλέκω; *Origines*, p. 152), which is repeated ("His best examples") by Messing, *HSCP* 56/7 (1947) 193. I know of no Greek ὀλκ-. But more serious, perhaps, is the morphological impossibility: ὀλε- is a disyllabic root, PIE **h₃elh₁-*; a PIE **h₃elh₁-k-* is conceivable (the κ is rather a Greek present formant, Schwyzler, p. 702), but in that case the ὀ- could not be called a prothetic vowel; however, both **h₃l-eh₁-k-* and **h₃lh₁-k-* gave **ὀληκ-* (for the second development see p. 95).

Returning to our starting-point, it must therefore be concluded that ablaut forms in themselves support the explanation of the Greek prothetic vowel from laryngeal only when these begin with *a-*; that PIE *a-* goes back to *h₂e-* is discussed on p. 133 ff. Roots which begin with *e* or *o* have not necessarily had a laryngeal. However, a possible exception to this is formed by the roots of which the vocalic sonant in Greek has *e-* or *o-*vocalism. In the case of ὄργια, for instance, there is reason to assume that ὄργ- is based on a zero grade (p. 37). However, the form **rĝ-* would have given **ârĝ-*. If one is therefore concerned here with a purely phonetic development (and the *o*-vocalism must not be ascribed to the effect of analogy), one must posit here a form **h₃rĝ-*, assuming that the laryngeal determined the colour of the vowel. With *h₁* one perhaps finds this phenomenon in ἐνφα- < **h₁vu-*, p. 45 f. s.v. ἐννέα. (Here again the cases with *h₂* are of course meaningless.)

b. Support in Hittite

In Hittite a direct representative of the consonantal laryngeal is found in some cases, represented in writing by a separate sign, transcribed *h*. One may therefore expect here a confirmation of the laryngeal which is assumed on the strength of the prothetic vowel in Greek. Now in Hittite one finds this *h* at the beginning of the word before consonant only before *u*; only *ha-lu-ga-aš* 'message' would have *h* before *l* if it were spoken as [*h*lugas]. In about fifteen cases Greek has prothetic vowel before *u*. If these facts are taken into consideration, it need not be surprising that Hittite only has two words which are cognate with these Greek words, both with *h₂u-*. These are:

ἄεσα — Hitt. *hu-i-iš-zi* [*hūiszi*] ‘he lives’; cf. Skt. *vāsati* ‘to stay’, Goth. *wisan* ‘to be’, Arm. *gom* ‘I am’;

ἄημι — Hitt. *hu-u-ḫa-an-te-eš* [*hūantes*] ‘wind’; Lat. *ventus*.

The suggested connection of ἄεθλος with *hūitiāzi* is incorrect, see p. 56.

There is, however, a word that must have had *h*₁, but of which the Hittite cognate has no *h*, ἔερση — *ḫarša-*, Laroche *BSL* 58,62, Friedrich *Erg. h.* 3, 36. If this interpretation is correct and the word is not a loan word, as Laroche expressly states, then the conclusion seems to have to be that *h*₁ at the beginning of the word before consonant in Hittite disappeared. That would be confirmed by the connection between ἐλέγχω — *linkzi* and ἐνεργεῖν — *ninink-*, *nakkiš*. However, it must be borne in mind here that there is also no certain case known of *h*₂ before *r l m n* in Hittite either. Nor is there a criterion for *h*₃: ὄνομα (Hitt. *la-a-ma-an*) has no prothetic vowel, see p. 47.

In any case, Hittite words that are cognate with Greek ones that have no prothetic vowel also have no *h*, e.g. ὕεκ-zi [*hekzi*] — ἑκόν, *ú-e-eš-tin* [*yes-*] — ἔννομι, *ú-it-ta-an* (*met-*) — ἔτος. In the case of *ne-pi-iš* [*nepis*] ‘cloud’ — νέφος one does not find a *h* either.

Although there are thus still a variety of questions of detail, above all on account of the paucity of Hittite material, in my opinion the importance of the forms *hūišzi* and *hūanteš* cannot be denied.

c. Lengthening in Vedic

In Vedic one sometimes finds lengthening of the last vowel of the first member of compounds. As this phenomenon partly occurs before certain roots, it is obvious to assume that this is in part a phonetic phenomenon. Kuryłowicz, *Symb. Rozw.* 104, in detail in *Roczn. Or.* 210-8, has suggested that this lengthening was caused by a laryngeal that originally preceded the second part of the compound. Per Slomann, in Pedersen, *Cinq. décl.*, p. 33 n. 1, arrived at the same idea independently of and just before Kuryłowicz. A number of these stems proved to correspond to words which in Greek have prothetic vowel. A clear case is the lengthening before *nar-*, which is cognate with ἀνήρ; one finds in the Rigveda *sūnāra-*, *sūnītā-*, *abhīnāra-*, *viśvānāra-*, *śikṣānārā-*.

This forms a neat confirmation of the idea that the Greek prothetic vowel developed from a laryngeal. And yet caution is called for here, for this lengthening also occurs in words, in a large majority in fact, for which laryngeal as first phoneme is improbable, or at least not demonstrable. Nor can it be denied that here rhythmic lengthening occurred, so that great care should be taken with the interpretation of this material. A careful study of Indian material is necessary here, but this is beyond the scope of the present work. I am basing myself here on the above-mentioned articles by Kuryłowicz and shall merely point to the possibility of finding in these lengthenings a confirmation of the laryngeal. This lengthening may also occur with the augment. One finds for instance:

ἀνήρ	<i>nar-</i>	<i>sūnára-</i> etc., supra.
ἐνεγκεῖν	<i>naś-</i>	<i>parīṇáśe</i> ; <i>ānaṭ</i> (augm.).
ἐλεύθερος	<i>rudh-/ruh-</i>	<i>upārúh-</i> , <i>anūrúdh-</i> , <i>vīrudh-</i> etc.
ἐέρση	<i>vr̥ś-</i>	<i>prā-vr̥ś-</i>

One may be tempted to find this lengthening in Greek as well. And yet the explanation as compositional lengthening is there always an obvious one. One is therefore solely entitled to assume the effect of a laryngeal here if the usual explanation cannot offer a solution. (Another point is, of course, to what extent compositional lengthening as such originates in lengthening after the disappearance of a laryngeal.) The explanation of Ruijgh, *L'élém. ach.*, p. 69, of ἱππῶμολγός as **ek^uo-ḥ₂molgós* is incorrect, since *oḥ₂* became *ō* and not *ā* (see p. 166 f.).

8. NATURE OF THE LARYNGEAL

Those who are of the opinion that the laryngeal could function solely as a consonant and could not be vocalized are obliged to explain the (apparently) vocalic representation of the laryngeal with the aid of reduced vowels.

Where the prothetic vowel is short, the reduced vowel must have stood behind the laryngeal, since *ḥ* would have developed into *aḥ* and thence before consonant into *ā* (in the case of *ḥ₂*). This is consequently out of the question.

Austin (see p. 78) assumes, like Sturtevant and Kuryłowicz (who notes *ḡ_e*) that the prothetic vowel developed from a group of laryngeal + reduced vowel, i.e. *ḥ_e* (in his notation *Ab*). It is evident that this is equally impossible. For if PIE had a vowel here, one would expect in all IE languages a vowel at this place, since one cannot assume that this reduced vowel would have disappeared without apparent cause (such as the effect of stress).

It has been stated above that Austin explains the opposition ἐέρση : ἔρση by **A₂vers-* : **A₁vers-*. In this way it might be assumed that the forms in the other languages go back to the variant without reduced vowel. However, if one is prepared to assume this ablaut, it remains improbable that in Greek (and Armenian) the one ablaut phase was carried through, and in the other languages always the other.

The same objection as the first one to Austin's view also applies to a vocalic laryngeal (*ḥ*), for this is by definition reproduced by a vowel, so that in this case too corresponding vowels might be expected in the other languages.

Another consideration is that the comparison *ters-* : *tres-* = *ḥ₂eug-* : *ḥ₂ueg-* renders it probable that in this position solely a consonantal laryngeal could occur. For the possibility of the development of anaptyctic vowels see the criticism of Adrados on p. 29 f. (The latter idea may already be found in Kuryłowicz, *Prace Fil.* 233, which, however, he abandoned in his *Etudes*, p. 28.)

A further argument seems to me the fact that Hitt. *ḫuiš-*, *ḫuant-* (*ḫu-i-iš-zi*, *ḫu-(u)-ua-an-te-eš*) does not indicate a reduced vowel.

If our interpretation, according to which μέλδομαι and νευρά began respectively with *shm-*, *shn-*, (p. 85 ff.) is right, the laryngeal that disappeared here must have been a consonant; a vowel, either a vocalic laryngeal or a reduced vowel, could not have disappeared.

A final argument is the following one. All forms of δύνημι (Frisk s.v.) seem to go back to a stem δνη-. The medial aorist seems to be one of the oldest forms of this stem in Greek. Chantraine, *Gr. Hom.*, p. 382, cannot explain the η (< ā) and describes the δ- as “peut-être prothétique”; (the word has no clear cognates in the other languages). The difficulties disappear if βλῆτο, πλῆτο are compared. These aorists have the expected zero grade of the stem, *CR₃H-*. If it is assumed that δνη- goes back to **h₃neh₂-* and that the medial aorist had the zero grade here as well, the stem had the form **h₃ηh₂-*; this form became δνā- phonetically. This development is understandable: the development from ηh₂ to vā is normal (see p. 205); afterwards the first laryngeal was vocalized. If the *n* was preceded by a vocalic element, one would expect in Greek *Vnh₂-to* > *δνᾶτο (Chantraine’s problem). To explain **h₃ηh₂-to* > δνῆτο one must therefore assume a consonantal *h₃*, as the comparison with βλῆτο confirms. This *h₃* was therefore still a consonant when ηh₂ became *nah₂* (> vā).

The conclusion is therefore that one has here a laryngeal that was consonantal in PIE, which was secondarily vocalized in Greek and Armenian.

Kuryłowicz’ idea, *Eos* 30, 206-11, that the development from laryngeal to vowel was phonetic only after words ending in a consonant, may be correct, but in that case this sandhi variant has evidently been generalized everywhere. For otherwise the agreement between Greek and Armenian cannot be explained. And yet the idea does not seem probable, since in that case this sandhi phenomenon would have been expected in Indian as well. For here there are still traces of sandhi apparent in which the laryngeal was concerned, and not in Greek.

9. LARYNGEAL BEFORE *i*

It is striking that Greek has prothetic vowel before ρ λ μ ν ϕ, but not before PIE *i*. One may think here of αἰονάω, αἰώρα and αἰόλος. None of these words has a reliable etymology. However, the interchange αἰόλος : αἰέλ-ουρος is reminiscent of PIE ablaut (Frisk’s “vocalic harmony” — assimilation? — is not convincing). There is not the slightest objection to a structure **h₂iel-*. However, it might be expected that the *i* would have disappeared, but there are exceptions to this rule (Lejeune, *Traité*, p. 145 f., where the adjectives ending in -αῖος may also be mentioned). As long as no cognates are known, this naturally remains very uncertain. (The form **aīepi-* in ἄριστον and ἥρι, having regard to the cognate forms, e.g. Av. *ayarə*, must go back to full grade **h₂ei-*.)

It is of course conceivable that the group *h₂i-* did not occur in the basic language, but it is also possible that *h₂i-* developed in another way than *h₂u-* etc. in Greek. The

opposition \tilde{h}_i- : $i-$ thus to be assumed has been connected with the fact that Greek answers in two ways to the forms in the other languages that seem to go back to $i-$.

This double representation of $i-$, Skt. *yáh* — $\delta\varsigma$: Av. *yāsta-* — $\zeta\omega\sigma\tau\acute{o}\varsigma$, has long attracted attention. Both developments are phonetically easy to explain and have parallels in other languages, but the fact that they exist side by side — without interchange with the same stem — calls for an explanation. Cf. Lejeune, *Traité*, p. 143 f. Attempts to attach the developments to certain conditions have not succeeded so far; discussion in Lehmann, *PIEP*, p. 74 f.

Of those who have sought a connection with the other languages, G. Schulze, *Über das Verhältnis des Z zu den entsprechenden Lauten der verwandten Sprachen* (Göttingen, 1867), already pointed to:

Skt. <i>yastá-</i>	$\zeta\epsilon\sigma\tau\acute{o}\varsigma$:	Skt. <i>iṣṭá-</i>	$\tilde{\alpha}\zeta\epsilon\tau\alpha\iota$
Alem. <i>jesan</i>	$\zeta\acute{\epsilon}\omega$:	Alem. <i>enēr</i> 'ille'	$\delta\varsigma$
OHG <i>joch</i>	$\zeta\upsilon\gamma\acute{o}\nu$:	Alem. <i>āmar</i> 'pain, sorrow'	$\eta\mu\epsilon\rho\varsigma$

Cowgill (p. 161) casts doubt on the last two etymologies. He further points out that $\omega\pi\alpha$ is cognate with Alem. *jār*, so that there is no correlation Gr. $\zeta-$ — Germ. *j-* as against Gr. $\epsilon-$ — Germ. zero, as meant by Schulze (and Lehmann ? Cf. Brugmann, *Grundr.*² 1, p. 282).³⁹ For the second argument see below.

After this Sapir, *Lg.* 14 (1938) 248-78, tried to give a solution with the aid of the laryngeal theory. He supposed that the voiceless laryngeal + i resulted in aspiration; on the other hand a $i-$ alone became $\zeta-$. He believed that an argument could be found in $\delta\varsigma$, Skt. *yáh*, of which the stem $i\acute{o}-$ is claimed to be an ablaut form of $e\acute{i}o-$ in Skt. *ayam*, Lat. *ea*. The latter form requires, if one assumes that every root began originally with consonant, $*\tilde{h}_1ei/\tilde{h}_1i-$, from which $*\tilde{h}_1i\acute{o}s$ (Sapir $*?yos$) therefore gives $\delta\varsigma$. As, however, the theory that the basic language only had words which began with consonant is not proven, this reasoning fails to apply and the problem remains.

I do not understand the apparent simplicity of Cowgill's reasoning (p. 163) that "plain" $i- > \zeta-$ is "perfectly acceptable, so that there is nothing here that laryngeals need to be imported to explain". This fails to appreciate the problem of the double representation of $i-$ in Greek, or, viewed from PIE, does not answer the question of how $i-$, \tilde{h}_1i- , \tilde{h}_2i- , \tilde{h}_3i- developed in Greek.

Hammerich, *Lar. b. Son.*, p. 12-5, assumed, on the strength of the fact that ζ developed from $d\acute{i} g\acute{i} g^{u}i$, that the ζ which seems to go back to PIE $i-$ in fact also developed from a cluster with i , the first element of which could be a laryngeal. However, he did not give any material by way of proof. Lehmann, *PIEP*, pp. 74-9, attempted to do so, concluding from Hammerich's consideration that only voiced laryngeal, that is \tilde{h}_3 (in his notation γ), followed by $i-$, became $\zeta-$. His argument that $\zeta-$ in Homer always makes position except in a number of proper names (which begin iambically, as Hoenigswald, *Lg.* 30 (1954) 468-74, remarks) seems to me not to prove

³⁹ In *Evidence*, p. 218, Lehmann repeats these facts without commenting on Cowgill's criticism (which was previously published in *Evidence*, 1960, p. 121).

that ζ- in all cases must have developed from a cluster. The development into ζ was already completed in Mycenaean: *zeukeusi zesomeno* (ζέω).

In addition to this the question therefore remains of what the development of *h₁i-* *h₂i-* was. *Yσμίνη might be a case of this development; before the Vedic root *yudh-* 'to fight' lengthening occurs (*vr̥ṣā-*, *amitrā-yudh-*), which might point to laryngeal, but is not in itself sufficient confirmation.

However, the material with which Lehmann seeks to support the hypothesis is not strong.

ζωστός, Lith. *júostas*, Av. *yāsta-*. Sturtevant, *Indo-Hittite Laryngeals*, p. 51, tries to connect this with Hitt. *iš-ḫa-a-i* [*išhai*] 'to bind', which in view of Luw. *hi-iš-ḫi-ja-an-ti* would be based on a stem **hihs-*. In both Anatolian languages metathesis of *hs-* would in that case have occurred, and in Hittite the first *h* would moreover have disappeared (by dissimilation?). The form **hiōhs-* (**h₃iēh₃s-*?) would have given ζωσ-. (For the structure of this stem one could compare **h₂ueg-s-*, Gr. ἄφεξ-.) Cowgill (p. 163) maintains the connection of the Anatolian words with Skt. *syāti* 'to bind', with *hi-* as reduplication of the *tisṭhati* type. This therefore implies a root **seh-*. In my opinion Sturtevant's reconstruction is too unreliable to qualify as an argument here.

For ζυγόν Ved. *āyuk-* (with long augment) and *abhīyuj-* could point to laryngeal. Cowgill (*loc. cit.*) doubts the value of these forms. The opinion is that Hitt. *iugan* refutes the reconstruction of a form **hiug-*. Lehmann regards the word as a borrowing from an Indo-Iranian language, just as Hittite has borrowed various terms in the field of the training of horses from this source. This supposition may be correct, but there is no compelling argument in favour of it. However, it is not certain that PIE *hiug-* would have become in Hittite **hiug-* (or **aiug-*?), the more so since an anlaut *hi-* does not occur in that language; compare further *uarša-*, p. 92f. Here too in my opinion compelling proof has therefore not been supplied.

For ζεϊαί, Lith. *javai* (pl.), Av. *yava-*, Ved. *sūyāva-* may point to laryngeal. (Lehmann's connection with ḫīa has been adequately refuted by Cowgill, p. 165.)

ζῆμη. Lehmann's connection with ζεύνυμι ζυγόν is of course completely untenable from the semantic point of view.

ζέω. Cowgill, p. 165, has demonstrated with sufficient clarity that Skt. *yastá-* (as against *iṣṭá-*) is no argument for laryngeal at the beginning of the word.

The best case is Ζέφυρος, to which Ambrosini, *Ann. di Pisa* 25 (1956) 142-7, has drawn attention. Hirt connects Gr. οἶφω, Skt. *yábhati* 'futuere', as **oiebh-*. It is therefore obvious to assume **h₃eibh-/h₃iēbh-* here. But if οἶφω goes back to an athematic present that may have had *o*-vocalism, it is not necessary to assume a laryngeal (**eibh-/oibh- : iēbh/iōbh-*); or else it need not be *h₃*. However, the Sogdian form *y'np̄t 'fuit' points to a nasal present, for which one is prepared to accept **hi-n-ēbh-mi*. According to the theory under discussion here, a possible **h₃iēbh-* would have become ζεφ-, which is said to be found in Ζέφυρος (according to Uhlenbeck, *Etym. Wb.*, p. 235). For according to Greek popular belief this wind was

capable of fertilizing women. The difficulty is of course that the meaning of Ζέφυρος is not known, which is why Cowgill rightly remains sceptical.

In other words, there is not a single case that demonstrates $\hbar_3i- > \zeta-$ with reasonable certainty. In this way the theory does not find enough support from the facts, which, however, having regard to the small number of words with $\zeta-$ having a reliable etymology and the special forms which are required to demonstrate \hbar_3 , is not surprising. Compare the small number of words for which ablaut forms confirm the explanation of the prothetic vowel from laryngeal (p. 89 ff.).

Reference may be made here to the recent theory of Ruijgh (*Het Myceense Dialect*, Leyden, 1966, pp. 16 ff.; *Etudes*, pp. 65 f.) that the words with $\zeta-$ are taken from another IE language. For the words usually represent things or proceedings that form part of material civilization. However, it seems to be improbable that (as was likewise assumed for Hittite !) the general IE word for 'yoke' should have been borrowed, although in that case one could point to for instance Lat. *bos*. The idea naturally remains a gratuitous one, as long as it cannot be demonstrated with reference to other words too that they have been taken over from another IE language and as long as it cannot be demonstrated on other grounds too that they must have been borrowed. Since nothing indicates this, this solution does not seem correct to me. He makes an important remark when he says that, while this $\zeta-$ already had such a sound in Mycenaean (supra), the transition $i >^*$ was still going on (*ote* ὄτε as against *jo-* ὦ(ς)), if the latter interpretation is correct.

B. THE NEGATIVE ADJECTIVES WITH NH-, NA-, NΩ-

The negative adjectives with $\nu\eta-$, $\nu\tilde{a}-$, $\nu\omega-$ must in my opinion be explained by means of the laryngeal theory. As the development assumed here, which has been incidentally proposed by Sturtevant and Austin (*infra*), forms a strong argument for the view defended here of the development of the prothetic vowel and the disyllabic roots (in Greek), it calls for careful discussion.⁴⁰ First a discussion of the material follows.

1. THE MATERIAL

A list is given below of the words concerned in alphabetical order, with the name of the author in whose work each one was first found. In the case of the words preceded by a question-mark, it is uncertain that they belong to this group. Those preceded by a dagger occur only at the place(s) stated. The list is based on LSJ (and Moorhouse, *Gr. Negatives*, pp. 51-4).

⁴⁰ After this chapter had been written I saw that B. Forssman, *Unt. z. Spr. Pindars*, pp. 145-9, had discussed the same subject. Our conclusions agree almost entirely.

- ? νηγάτεος (?) '??' Hom. (B 43 Ξ 185).
 νήγρετος (ἐγείρω) 'unwaking' Hom. (ν 74. 80).
 † νηδεές (δέος) 'without fear' Alcm. (26,4 Page).⁴¹
 νῆϊς (οἶδα) 'ignorant' Hom. (H 198 9 179).
 † νηκερδής (κέρδος) 'unprofitable' Hom. (P 469 ξ 509).
 † νηκέρως (κέρας) 'not horned' Hes. (*Op.* 529).
 † νήκεστος (ἀκέομαι) 'incurable' Hes. (*Op.* 283).
 νηκουστέω (ἀκούω) 'not to hear' Hom. (Y 14).
 νηλεγής (ἀλέγω) 'αφρόντιστος, ἀθρήνητος' Hsch.⁴²
 νηλεής (ἔλεος) 'pitiless' Hom. (*passim*).
 νηλεής (ἀλέομαι) 'unavoidable' Hom.
 † νήλευστος (λεύσσω) 'not seen' [Theocr.] *Syr.* 20.
 ? νήλιπος (ἤλιψ) 'shoeless' S.
 † νηλίτιδες (ἀλιταίνω) 'guiltless' Hom. (π 317 = τ 498 = χ 418).
 νημερτής (ἀμαρτάνω) 'unerring' Hom. (*passim*); Dor. νῶμ. Tragg.
 † νημηθής (-μηθής) 'thoughtless' Inscr. Phrygia (Ramsay, *Stud. East. Rom. Prov.*, p. 123).
 νηνεμία etc. (ἄνεμος) 'windlessness' Hom. (E 523 Θ 556 ε 392 μ 169).
 † νηπαθής (πάθος) 'free from suffering' Opp. Apam. (C. 2.417).
 † νήπαυστος (παύω) 'unceasing' Lyc. 972.
 ? νηπεδανός (ἡπεδανός) 'weakly, light' Opp. Apam. (C. 3.409).
 † νηπεκτής (πέκω) Hsch. νηπεκτέας· ἀκτενίστους.
 † νήπεκτος Epic. Alex. Adesp. (2.30).
 νηπελέω (*ἄπελος) 'be without power' Hp. (ap. Gal. 19.124).
 νηπενθής (πένθος) 'banishing pain and sorrow' Hom. (δ 221).
 † νηπευθής (πευθ-) 'unsearchable' Orac. ap. Macr. (*Sat.* 1.18.20).
 † νηπυθές· ἄπευστον Hsch.
 † νήπυστος 'not heard' Nonn. (D. 11.199).
 ? νήπιος (?) 'infant' Hom.
 † νήπλεκτος (πλέκω) 'with unbraided hair' Bion (1.21).
 νήποινος (ποινή) 'without compensation, penalty' Hom. (*Od.* α β ξ σ).
 νᾶποινος· μάταιος Hsch.
 νήριτος (ἄρι-) 'countless' Hes. (*Op.* 511).
 νήριθμος [Theocr.] 25. 57, Lyc.
 νῆστις (ἔδω) 'not eating' Hom. (T 156.207 σ 370).
 † νήτιτος (τίνω) 'unavenged' Inscr. IG 14. 1389 ii 33.
 † νητρεκής (-τρεκής) 'sure' Lyc.

⁴¹ See following note.

⁴² Forssman (n. 40), p. 147, n. 3: "Die zweite Bedeutung bei Hesych deutet auf (sekundäre) Beziehung zu ἔλεος; vgl. die benachbarten Glossen νηλεγές· ἀνοικτον, ἀθρήνητον; νηλεγέως· ἀνοικτῶς." At the place in Alcmán (26,4 Page) cited in LSJ s.v. νηλεγής the text gives νηλεές, which must probably be changed into νηδεές (Boissonade) (cf. ἁδεές Phot.).

- † νήυτμος (ἄυτμή) 'breathless' Hes. (*Th.* 795).
 † νήφρων (φρήν) 'senseless' Claudian. (*Gig.* 2. 23).
 νωδός (ὀδών) 'toothless' Ar., Arist.
 νώδυνος (ὀδύνη) 'painless' Pi.
 νωθής (ῥομαι) 'sluggish' Hom. (Λ 559).
 νωθρός Hp. (Pl., Arist.)
 νωλεμής (?) 'unceasingly' Hom. (*passim*).
 νώνυμ(ν)ος (ῥνομα) 'nameless' Hom. (M 70 = N 227 = Ξ 70; α 22 ν 239 ξ 182).
*nopepa*₂ (*nōpheleha*) (ῥφελος) 'useless' Myc. PY Sa 682 + (*Docs.* p. 374).
 νωχελίη (?) 'laziness, sluggishness' Hom. (T 411).
 † νώψ· ἄσθενής τῇ ὥψει Hsch.

2. INTERPRETATION

a. Chronology

The first question that must be dealt with here is that concerning the relation between νη-, νω- of words that begin with vowel and those of words that begin with consonant. For this question the words whose derivation is uncertain and those whose first occurrence cannot be dated should be left out of consideration. The following are unclear: νηγάτεος νήλιπος (probably derived from ἤλιψ; this word is in that case the only one derived from a word beginning with a long vowel) νηπεδανός νήπιος νήυτμος (where the origin of ἄυτμή is not known) νωλεμής νωχελίη.

The following words cannot be dated: from Hesychius νηλεγής⁴³ νηπεκτής νηπυθής νώψ and further νημηθής νηπευθής νήτιτος.

If we arrange the remaining words in chronological order we get the following picture for νη- of words with consonant.

Hom.	Hes.	older poetry	Hellen. and later
† νηκερδής	† νηκέρως	† νηδεές Alcμ.	† νήπαυστος Lyc. III B.C.
νηπενθής			† νητρεκής Lyc.
νήποινος			† νήπλεκτος Bion II B.C.
νήϊς			† νήλευστος [Theocr.]
			† νήπεκτος Epic. Alex. Adesp.
			† νηπαθής Opp. Apam. III A.D.
			† νήπυστος Nonn. IV/V A.D.
			† νήφρων Claudian. IV/V A.D.

In my opinion the picture thus obtained is not susceptible to a dual explanation. Some of these forms are already found in Homer. In the case of νῆϊς it should be

⁴³ Ἀνηλεγής (Q.S., Hsch.) is also assumed with great probability in Hom. *τανηλεγής*; cf. Leumann, *Hom. W.*, p. 45. Division into -τα νηλεγέος (θανάτοιο) is less probable, since in that case the formula would not coincide with a caesura.

remarked that forms of the stem *φειδ-* with a long augment are also found in Homer (*ῥείδη(ς)*). Of *νηκερδής* (P 469 ξ 509) *ἔπος νηκερδὲς ἔειπες* (ξ 509) seems to have been created on the pattern of Γ 204 *ἔπος νημερτὲς ἔειπες*;⁴⁴ one is inclined to derive *νηκερδέα βουλὴν* (P 469) from *νημερτέα βουλὴν*, which is found in α 86 = ε 30. Besides *ποινὴ ἄποινα* (Il.) occurs as substantive, which may have facilitated the formation of *νήποινος*. *Νηπενθής* occurs in Homer only in δ 221.

After Homer (and Hesiod) this formation occurs only in Hellenistic authors, the first being the notorious Lycophron. All these words are *ἄπαξ λεγόμενα*, which of course may be coincidental, but more probably suggests that these are only literary nonce-words. For *νήπαστος* cf. *νωλεμής*, with the same meaning ('unceasingly'). *Νηπαθής* is probably after the example of Hom. *νηπενθής*.

It is also striking that *νω-* of words beginning with consonant is not demonstrable.

The forms with *νη-*, *νω-* of words with vowel give an entirely different picture.

Myc.	Hom.	Hes.	older poetry	class. language	Hellen.
<i>noperea</i> ₂	<i>νήγρετος</i>	<i>νήκεστος</i>	<i>νώδυνος</i> (Pi., S.)	<i>νηπελέω</i> Hp.	
	<i>νηκουστέω</i>	<i>νήριτος</i>		<i>νωδός</i> Ar.	
	<i>νηλεής</i>				
	† <i>νηλίτιδες</i>				
	<i>νημερτής</i>				
	<i>νηνεμία</i>				
	<i>νήστις</i>				
	<i>νωθής</i>				
	<i>νώνυμ(ν)ος</i>				

This survey suggests that this type was old, widely represented in Homer, and even demonstrable in Mycenaean, while some do not occur for the first time until later. It is improbable that *νηπελέω* was a late creation, since **ἄπελος* is no longer demonstrable anywhere. With regard to *νήριτος* Leumann, *Hom. W.*, pp. 243 ff., assumes that it goes back to ι 22 *ναιετάω δ' Ἰθάκην εὐδείελον ἐν δ' ὄρος αὐτῇ | Νήριτον εἰνοσίφυλλον ἀριπρεπές*, with numerous arguments. In that case *νήριτος* belongs in the Homer column. For *νήκεστος* see below.

Another argument may be that beside *νη-* of words with vowel mostly more recent forms with *άνη-* occur, while beside *νη-* before consonant only older forms with *ᾱ-* are found. In my opinion this indicates that *νη-* before consonant is recent and takes the place of *ᾱ-*, whereas *νη-* of words with vowel is old and was gradually transformed into *άνη-*, not directly replaced by *άν-* (+ *short* vowel), which also happened.

Beside *νη-* before consonants one finds:

<i>νήϊς</i> Hom. H 9	<i>ἄϊδρις ἄϊδρεΐη</i> Γκλμ
<i>νηκερδής</i> Hom.	<i>ἄκερδής</i> S. (<i>ἄκέρδεια</i> Pi.)
<i>νηπενθής</i> Hom.	<i>ἄπενθής</i> A.

⁴⁴ For ξ 509 see Hoekstra, *Modifications*, p. 59.

νήποινος Hom.	(ἀνάποινος Hom. A 99)
νηκέρως Hes.	ἀκέρως Pl.
νηδεής Alcm.	ἀδεής Il.
νηπαθής Opp.	ἀπαθής A.
νήπαυστος Lyc.	ἄπαυστος Parm., A.
νήπεκτος Epic. Alex. Adesp.	ἄπεκτος Androt. (IV B.C.)
νηπευθής Orac. ap. Macr.	ἀπευθής Hom.
νήπλεκτος Bion (II B.C.)	ἄπλεκτος A.P. 7. 412 (Alc. Mess. III/II B.C.)
νήπυστος Nonn.	ἄπυστος Hom.
νήτιτος ⁴⁵ inscr.	ἄτιτος Hom.
νητρεκής Lyc.	ἀτρεκής Hom.
νήφρων Claudian.	ἄφρων Hom.
νήλευστος [Theocr.]	(ἄλευστος Hsch.)

Beside νη- of words beginning with vowel the following forms are found (to be distinguished into four groups: I. ἀνη-, ἀνω- more recent;

II. ἀνη- older;

III. ἀνε-, ἀνο- more recent;

IV. no other form.)

I. νηκουστέω Hom. (Y 14)	ἀνηκουστέω Hom. (O 236 = Π 676)
νηλεής Hom.	ἀνηλεής Men. -έως Hp. -έητος Aeschin. -εήτως Ar., Pl. ἀνελεής pap. (IV A.D.) -έητος Arist.
νηνεμία Hom.	ἀνήνεμος S.
νήστις Hom.	ἄνηστις A.
νώδυνος Pi., S.	ἀνώδυνος S., Hp.
νώνυμ(ν)ος Hom.	ἀνώνυμος Hom. (9)
(MNΞ ανξ)	
<i>noperea</i> ₂ Myc.	ἀνωφελής A.
II. νήκεστος Hes.	ἀνήκεστος Hom., ἀνακ. Hp.
III. νήγρετος Hom.	ἀνέγερτος Arist.
νημερτής Hom.	ἀναμάρτητος Hdt.
νωδός Ar., Arist.	ἀνόδων Arist.
νωθής Hom.	ἀνόθηρος Hsch.
IV. νηλίτιδες Hom.	—
νώψ Hsch.	—

The last group (IV) is irrelevant here. Of the third, a form ἀνη-, ἀνω- is not known. The forms with ἀν- differ here in formation from those with νη-, νω- and are more recent. The first group demonstrates that ἀνη- (ἀνε-), ἀνω- is more recent than νη-, νω-. Nor was anything else to be expected: it would be incomprehensible if ἀνη-

⁴⁵ The form νήτιτος is probably made after Hom. νήποινος.

were replaced by νη-, if an old νη- did not exist. This replacement can, we see, already be observed in Homer.

It is striking that Hesiod has νήκεστος as against Hom. ἀνήκεστος. However, it is improbable that νήκεστος is a form resulting from phonetic development; see p. 110.

b. Conclusion

The conclusions from the preceding examination are then as follows.

(1) The negatives with νη-, νω- are old; they are present in a large number in Homer.

(2) They disappear from the language. They are replaced by ἀνη-, ἀνω- or by entirely new formations with ἀν- followed by short vowel. This replacement already began with Homer: ἀνηκουστέω (? ἀνήκεστος, ἀνώνυμος) as against sixteen with νη-, νω- (including νηγάτεος νωλεμής νωχελία).

(3) Νη-, νω- is old in words that began with vowel. The form spread to words that began with consonant, but exclusively in the artificial language of Homer, Hesiod, (Alcman) and Hellenistic poetry. The first development can be outlined in Homer: (? νῆϊς), νήποινος (Od.) beside ἄποινα (Il.), νηκερδέα after νημερτέα; νηπενθής (δ).

c. Attempts at an Explanation

PIE used *ne as sentence negation, and in compounds *n̥; in general it is assumed that these two are related (latterly Moorhouse, *op. cit.*, pp. 41-6), although some reject this idea (Puhvel, *Lg.* 29 (1953) 14-25). Gray, *Lg.* 1 (1925) 119-29, operates with a basis *anē, for which there is, however, no ground: Gr. Skt. a- before consonant cannot be so explained, nor, come to that, ne. Thus Kuryłowicz, *Etudes*, p. 243, works with *hne (as form II of *hen), because ne/n is not a normal type of ablaut. However, I do not see how this simplifies the problem: is *hn-e so much more comprehensible than *n-e? Puhvel (*loc. cit.*) also works with *hn-, of which the n was always vocalic, since every word would have originally commenced with consonant. As stated (p. 90 ff.), the latter assumption is unfounded and the form hn- explains nothing and is suggested by nothing. The article by Puhvel makes matters particularly complicated⁴⁶ (in his own special fashion) by bringing into the discussion all conceivable sandhi variants (nine), of which, however, nothing — outside what was already long known — has any basis in fact; cf. p. 108. See the criticism of Moorhouse, pp. 44-6 and 59 n. 1.

Moorhouse rightly also disclaims that the form ἀνα- is of importance to this discussion. Its development can be followed step by step: Hom. ἀνάεδνος (I 146. 288 N 366)⁴⁷ and ἀνάποινος (only A 99; based on ἄποινα?). Hesiod has ἀνάελπτος (*Th.* 660), which looks like an imitation of ἀνάεδνος (cf. ἐέλπομαι/ἐλπομαι beside ἔεδνα/ἔδνα), and ἀνάπνευστος (*Th.* 797). Solmsen, *Unters.*, pp. 264-6, has pointed out that

⁴⁶ Cf. his explanation of νόθος from *H₂-H₂odh-. In my opinion this form, with double h₂, would have become *ἀνᾱφοθ-.

⁴⁷ One expects here a form *νήεδνος. Cf. also p. 59.

this place, ἀλλά τε κεῖται ἀνάπνευστος καὶ ἄναυδος, is an imitation of ε 456f., ὁ δ' ἄρ' ἄπνευστος καὶ ἄναυδος | κεῖτ' ὀλιγηπελέων, and evidently is based on an incorrect interpretation of this place or still others (or is it instead deliberate 'embellishment'? For ε 456 there is a *varia lectio* ἀνάπνευστος). Ἀνακηδής (Democr.), ἀνάγνωστος (Call.?) and ἀνάπταιστος (Suid.) then follow. It is clear that this is an artificial form that is of no importance to PIE. Gray (*loc. cit.*, p. 121) recalls the New Greek forms ἀνάβακτος ἀνακέφαλος ἀνάκακος, where ἀνα- is equivalent to ἀ-. Moorhouse rightly points out that these forms "could have arisen *at any stage* in the language".

Wackernagel, *Vorl. üb. Syntax* 2., p. 284, who explains the form ἀνη- as ἀν- (< η) with compositional lengthening of the first syllable of the following word, which in principle is highly feasible and may be correct for some cases, has suggested that νη- be explained in this way from ν-η- (νήνεμος < ν-ἄνεμος), with ν- as a variant of ne/η-. Frisk (s.v. νη-) combines this in what is probably deliberately a not entirely clear manner with the most widespread explanation, that from ne- (with contraction; *infra*): "Durch Analogie nach νηλεής, νήνεμος u.a. gebildet, die zunächst für ν-ηλεής ν-ήνεμος mit gedehntem Anlaut des Hintergliedes stehen (können), aber letzten Endes wohl die Satznegation *ne enthalten". It seems to me that Frisk is of the opinion that νη- of words that begin with vowel does not have the same origin in all cases, but has been formed partly on the analogy of νη- < *ne + e/a- as ν + ē/ā-. This is a valuable idea. It is probable that νη- has been secondarily extended, also in the case of words beginning with *vowel*, since it was *later* likewise used before consonant. However, he does not regard ν-ē/ā- as the origin. I tend to share this view, because otherwise there is not the slightest indication of PIE ν- (beside η-). Moreover, in this case compositional lengthening is not self-evident, since after all nothing is changed in the syllabic structure of the word by the addition of ν-. (The latter is an argument only if the succession of short and long syllables is regarded as decisive for the compositional lengthening and is not interpreted as a mechanical extension of IE contraction of vowels. Cf. also p. 94).

As Schwyzler, p. 431 n. 6, remarks, νη- could in itself be PIE *nē, Skt. *nā*, Lat. *nē*, but, as has been demonstrated above, νη- before consonant is secondary and the origin in words that begin with vowel points rather to something like contraction. Moreover, νᾱ- (νᾱμερτής Tragg.) testifies against *nē (Schwyzler, *ibid.*).

There remains the generally accepted supposition (Schwyzler, p. 431, Lejeune, *Traité*, p. 179 n. 2, Moorhouse, p. 57, Frisk, *supra*) that νη- goes back to the sentence negation *ne, contracted with the following vowel. However, there are insurmountable objections to this.

As stated, PIE *ne is sentence negation and it is not used in compounds. It is, however, found in combination with *-k^ue, Skt. *naca*, Lat. *neque*, Osc. *nep*, Goth. *nih* (cf. Myc. *ouqe*) and *-ye, Skt. *navā*, Lat. *neu*, W. *neu*, which can be immediately explained by its original function. One cannot speak of compounds here. It is also combined with pronouns and adverbs, Skt. *nākiṣ*, 'no one, none', Av. *naēčiš*, Lith.

niēkas, W. *nep*, OIr. *nech* and above all in Latin, *nemo*, *nihil* (cf. OHG *neo-wihts*), *non* < **ne-oīnom*, *nullus*, *neuter* and *numquam nusquam* (*nequam nequaquam*). *Ne* is also found in a number of other combinations, which can be immediately explained by the original function: Lith. *nėsti*, Goth. *nist* and above all in Latin *nefas*, *nego*, *nescio*, *nolo* (cf. OE *nylle* < **ne-wille*). Sanskrit has a few compounds, *namura* 'immortality', *na-ciram* 'not for long', *na-puṃsaka-* 'unmanned, neutral'. See Moorhouse, pp. 32 ff. (For Latin recently Leumann, *Glotta* 42 (1964) 110.)

Only in Balto-Slavic is *ne-* generally used instead of **ṇ-*, OCS *ne-bogъ* 'poor', *ne-gasimъ* 'unauflöslich', *ne-cistъ* 'impure'; Lith. *ne-lābas* 'not good', *ne-pigūs* 'not moderate'. And yet OCS *-je-* perhaps displays a trace of the old *ṇ*, *ne-je-věro* 'unbelieving', *ne-je-sytъ* 'pelican' ('the insatiable'?). However, it is striking that *ne* is very rare in bahuvrihis (Moorhouse, pp. 36 and 57), while a large number of the words with *vn-*, *vō-* are bahuvrihis. (See below for the conclusion from these data.)

It is clear that we are concerned here with extensions that took place in the individual languages.

A second objection is that there is not a trace left in Greek of *ne* as sentence negation. Even in the combinations **ne-k^ue*, **ne-k^uis* Greek has *οὐ* instead of *ne*. This argument would weigh all the more heavily if the connection of *οὐ* with Arm. *oç* were correct. See for this Moorhouse, pp. 15-8, and Cowgill, *Lg.* 36 (1960) 347-50, who traces it back to *(*ne*) *h₂oḡu* (*k^uid*),⁴⁸ of which **h₂oḡu* is found in Skt. *āyu* (*h₂eiḡu-* in *ālēi*), and for which locution he gives parallels in Germanic. For this would suggest great age for *οὐ* and would imply that **ne* was displaced at an early stage, while the theory discussed here supposes a secondary extension of **ne*.

A further very considerable objection is that one would expect **ne-*, *ve-* before consonant too, of which there is no evidence. Compare for this the above-mentioned extension of **ne-*, especially in Balto-Slavic, which took place principally before consonant. The Greek words suggested, *véκταρ* and *véποδες*, cannot be used as proof of the existence of such forms.

The word *véποδες* occurs only once in Homer, δ 404: *φῶκαι, νέποδες καλῆς Ἀλοσύδνης*. Later it does not occur again until the Hellenistic period, in the meaning of 'children' (Theocr. 17.25, Call. fr. 77), to which not much value may be attached, since this meaning has probably been concluded from the Homeric instance. The word is later explained (Apion ap. Apollon. *Lex.*) as *νηξίποδες* from *νέω* or as *ἄποδες* with *ve-* = *νη-*. Compare for this *νήποδες* *ιχθύες* Hsch. The first explanation is certainly incorrect, and the second is no more than an attempt to explain *ve-* by identifying it with a word that resembles it; this has of course only the value of a grammarians' construction, and does not represent an old tradition.

The *varia lectio* of h.Ap. 78 does not have any separate value. Delos, giving expression to her fear that Apollo will despise her and cause her to disappear under water, says there: "πολύποδες δ' ἐν ἐμοὶ θαλάμας φῶκαι τε μέλαιναι οἰκία ποιήσων-

⁴⁸ For *oḡu* > *ou* cf. **poḡju* > Skt. *pāyú*, Gr. *πῶν* (see p. 173; cf. Lejeune, *Traité*, p. 145). One would, however, expect traces of hiatus. Mycenaean is not written with a *j* (*o-u*).

ται ἀκηδέα χήτεϊ λαῶν” where ἔκαστά τε φύλα νεπούδων has also been handed down for the last three words. One has the impression that the word νέποδες has only been used for the sake of the contrast with πολύποδες ‘many-footers’. One reason for this was probably that ἀκηδέα χήτεϊ λαῶν was not understood (“their dwellings... that remain undisturbed, because there will of course then be nobody who could trouble them”). One cannot otherwise imagine that this not particularly troublesome text would have been changed so radically. In any case it seems certain — in view of φῶκαι — that δ 404 is the basis of it. This is also the only place with νεπουδ- (or νεπῶδ-).

The only authoritative place is therefore Homer, in which connection it should be borne in mind that it is not certain that the word still has its original form and meaning here. For Halosydne see Frisk. The connection with *nepōtes* is incorrect, since ἀνεψιός corresponds to it; see p. 45. The meaning ‘cousin’ does not fit properly into Homer either. Νέποδες could also mean something quite different, e.g. ‘escorts’.

The explanation of νέκταρ by means of an element νε- is entirely unprovable; this view is shared by Frisk s.v. Cf. p. 160f.

There is thus no trace of a Gr. νε- from PIE **ne* and a Greek contraction *ne-a- > nā-, ne-o- > nō-* has still to be demonstrated. If the contraction is to be placed in PIE, the drawback is that *nē- nā- nō-* would also be expected in the other languages, of which there is no evidence, and above all that, as discussed above, **ne* is not used in compounds in PIE.

This explanation, too, therefore proves untenable and another will have to be sought.

d. *Explanation by Means of the Laryngeal Theory*

If it is assumed that in compounds only *h-* is old, which in Greek gave *ā-* before consonant, and *āv-* before vowel, it is clear that here *h-* was followed by another element than the consonants and vowels assumed of old for PIE, namely a phoneme that in Greek became a vowel, since *vh-*, *vō-* originates in words with vowel. These considerations suggest a laryngeal.

If the cases which have a chance of being old are put together, i.e. omitting forms with *vh-* before consonant, as well as that which seems to be derived from a word with long vowel and those whose etymology (*νηγάτεος νήπιος νήϋτμος νωλεμής νωχελία*) or age (*νώψ*) is unknown, the result is as follows:

ε-	α-	ο-
νήγρετος	νήκεστος	νώδός
νηλεής	νηκουστέω	νώδυνος
νήστις	νηλεής	νωθής
	νηλίτιδες	νώνυμ(ν)ος
	νημερτής	<i>no pere a₂</i>
	νήνεμος	
	νηπελέω	
	νήριτος	

It is striking that in many cases, at least nine out of the sixteen, the first vowel of the word from which they are formed is a 'prothetic vowel' (the words spaced). This is also pointed to by the prevailing structure, $\nu\eta\text{CVC-}$ of words with VCVC- , much more rarely $\nu\eta\text{C-}$, from VC- (i.e. coalesced with the stem vowel, $\nu\eta\sigma\tau\iota\varsigma$ $\nu\omega\delta\acute{o}\varsigma$ $\nu\omega\theta\acute{\eta}\varsigma$).

As it is probable that the prothetic vowel has developed from laryngeal and the only PIE form of the negative 'prefix' that is used in compounds is $\eta\text{-}$, a starting-point $*\eta\text{-}\acute{h}\text{CVC-}$ is most self-evident. The initial group amounts to $\tilde{\eta}$, from which it is generally assumed that $\tilde{\nu}$ developed. The origin in $\eta\acute{h}\text{C-}$ makes a development into the three different timbres possible. Assuming the existence of three laryngeals, which were separately preserved in Greek (which is also indicated by the prothetic vowel), $\eta\acute{h}_1\text{-}$, $\eta\acute{h}_2\text{-}$, $\eta\acute{h}_3\text{-}$ may be expected. The development from this to n + long vowel can be explained solely by assuming that a vowel developed between n and \acute{h} . It is conceivable that the timbre of this vowel was determined by the following laryngeal, so that $\eta\acute{h} > n_o\acute{h} > n\eta\acute{h}_1/n\acute{h}_2/n\acute{h}_3$ was obtained, which became $n\tilde{e}$ $n\tilde{a}$ $n\tilde{o}$ respectively.

A parallel elsewhere makes it highly probable that we are in fact concerned here with a phonetic development. In the zero grade of the disyllabic roots one gets the same group $\acute{R}H$ in the middle of the word. Uncertainty prevailed about the phonetic representation of this group ($\rho\tilde{a}$ and $\rho\omega$ were mentioned). However, in my opinion the material points to $\rho\tilde{a}$ $\rho\eta$ and $\rho\omega$, as is explained at length in chapter XI. This development becomes understandable with the aid of the laryngeal theory. The agreement between these two phenomena is so striking that in my opinion the development $\eta\acute{h}_1 > \nu\eta$, $\eta\acute{h}_3 > \nu\omega$ beside $\eta\acute{h}_2 > \tilde{\nu}$ can no longer be doubted. This confirms that the three laryngeals in Greek preserved their original opposition, which is the most important proposition that is defended in this study.

The idea that $\nu\eta\text{-}$ goes back to $\tilde{\eta}\text{-}$ is already found in Brugmann-Thumb, *Gr. Gr.* 1913⁴, p. 102, where it is given without further argumentation. Only $\acute{\alpha}\mu\text{-}$ in $\acute{\alpha}\mu\phi\alpha\sigma\acute{\iota}\eta$ is regarded as a variant beside $\nu\eta\text{-}$ from $\tilde{\eta}\text{-}$. The view that this $\acute{\alpha}\mu\text{-}$ is a phonetic form has now been generally abandoned, cf. Frisk s.v. and Chantraine, *Gr. Hom.*, p. 99. Moreover, $\acute{\alpha}\nu$ cannot come from $\tilde{\eta}$ before consonant. Nor can $\acute{\alpha}\nu\alpha\text{-}$ beside $\nu\eta\text{-}$ be the phonetic representation of $\tilde{\eta}$; it has been demonstrated above that this form is not old.

The explanation of $\nu\eta\text{-}$ from η + laryngeal was first given by Sturtevant, *Lg.* 16 (1940) 85, for $\nu\eta\iota\varsigma$. It is, however, improbable that the stem $*\mu\acute{e}id\text{-}$ had a laryngeal despite the long augment of $\eta\acute{\epsilon}ιδ\epsilon\iota$. In any case there is no evidence of a prothetic vowel. The connection with Hitt. $\acute{h}u\text{-}u\text{-}i\text{-}tar$ 'fauna, the animals' (still made in *Comp. Gr.*, pp. 50f.) is not convincing from the semantic point of view. The γ assumed by Sturtevant (that is \acute{h}_3) would have given $*\nu\acute{\omega}\iota\varsigma$. (However, the formation of this word suggests great age; must one assume $*n\tilde{e}\text{-}\mu\acute{e}id\text{-}$?)

In this way Austin, *Lg.* 17 (1941) 83-93, also explains $\nu\eta\kappa\upsilon\sigma\tau\acute{\epsilon}\omega$ $\nu\eta\mu\epsilon\rho\tau\acute{\eta}\varsigma$ $\nu\acute{\eta}\gamma\gamma\epsilon\tau\acute{o}\varsigma$. However, he does not seem to have considered the consequences of this explanation, because he mentions it *en passant*, without going more deeply into it.

The same is true of Cowgill (p. 152), who states with reference to νόνη(ν)ος: "certainly representing a pattern that began in roots with initial laryngeal, where **η*-HC- became **ē*C-", referring to Puhvel. Puhvel's formulas, *Lg.* 29 (1953) 14-25, display the combination $\eta + \hbar > \bar{\eta}$, but although he also notes the connection with the prothetic vowel and assumes that this developed from laryngeal, he rejects the explanation defended here. A first element of the following word could not be contained in νη- (etc. and ἄνη-, ἄνα- which he all regards as original sandhi variants), since the same lengthening is found in the εἰδώνυμος, ἡνεμόεις types. These objections do not hold water. The first is a case of compositional lengthening, for the second see Leumann, *Hom. W.*, pp. 109 f., *IF* 61 (1952) 1-16 = *Kl. Schr.*, p. 365 n. 7; cf. Chantraine, *Gr. Hom.*, p. 98. I do not see to what extent these forms refute the explanation defended here. As demonstrated above, *n* + compositional lengthening is not possible.

An objection that might be adduced is that there is no representative of this form that can be pointed to in the other languages. For one would expect Skt. *η-ḥC-* > *aḥC-* > *āC-*, and in Latin and Celtic *nāC-*. The only form that might point to this is Skt. *ásat-* (RV IV 5.14 VII 104.8) beside *ásat-*, which might go back to **η-ḥ₁s-ηt-*.⁴⁹ However, it is by no means certain that the root of 'to be' commenced with a laryngeal; Greek rather suggests the opposite, p. 91. For the rest it is understandable that this small group of strange forms was soon replaced in the various languages.⁵⁰

e. The separate Forms

There are still various problems of detail.

The form νήγρετος must go back to **η-ḥ₁gr-etos*. For *-etos* cf. ἄ-σχ-ετος (Av. *a-zg-ata-*), ἄ-σπ-ετος etc., likewise with zero grade of the stem; Schwyzler, p. 502.

With νήριτος (cf. Arc. ἐπάριτοι) it is difficult to make out whether we are concerned with a stem form **h₂eri-* or **h₂ri-*. However, the zero grade is normal here, cf. Myc. *akittito* (ἄκτιτος), ἄφθιτος — Skt. *ákṣita-*, ἄκριτος (cf. ἀκριτόφυλλον — νηριτόφυλλον ap. Hsch.) and in particular ῥυτός from the stem **φερυ-*.

νηλίτιδες occurs solely in π 317 = τ 498 = χ 418. The length of the first ι is striking, because this is historically inexplicable (ἄλειτ-/ἄλοιτ-/ἄλιτ-). In view of the parallel forms one would expect full grade (νηλεής νημερτής νηπελέω νηλεγής νωλεμής *noperea₂* νοχελία). It is therefore obvious that the original form was **νηλειτ-* (as also read by Schwyzler, p. 464). The ending -ις -ιδος beside the predominating -ης is also strange. It appears that most manuscripts have νηλιτεῖς

⁴⁹ As already suggested by Kuryłowicz, *Etudes*, p. 30.

⁵⁰ Phr. *nadrotos* is interpreted by Haas, *Phr. Spr.*, p. 97 f., as 'entmannt'. However, as demonstrated, an element *ne-* is improbable. The form *η-* to be expected cannot be contained in the word, for *η-* before vowel becomes *an* (*knoumanei* < *-mḡ-ei*). The sole possibility would be that Phr. *na-* corresponds to Gr. *vā-* and goes back to *ḡh₂-*. One might assume that the substantive (Haas starts from **ādro* 'Kern, Hode') was cognate with **h₂nēr* 'man', which suggests a basic form **η-ḥ₂nr-o-to-*. However, there is nothing to indicate *nr* > *dr*, while the group *mr*, for which one would then expect *br*, is maintained (*Temroge*).

(-ητεῖς), which gives a versus spondiacus. This was perhaps one of the reasons why the form ending in -ειτεῖς (-ιτεις ?) was replaced by the more frequent -τιδες (beside ἀλείτης Γ 28 υ 121, cf. ἰκέτης — ἰκέτις). It therefore seems to me that the original text had νηλειτέες (νηλιτέες ms. J in π 317; cf. νηλιτέες· ἀναμάρτητοι, ἀναίτιοι, [ἄχρηστοι] Hsch.) See Add.

νηλεής is from **h₁ley-es*; cf. Lejeune, *Traité*, p. 222; for νηλεῖ etc. *ibid.* and Chantraine, *Gr. Hom.*, pp. 73 f.

νημερτής. With reference to ἀμαρτάνω Frisk says “Bildung und Herleitung unklar”. The Aeolian form ἡμβροτον gives an aorist stem **am̥t-*, which in structure, apart from the first vowel, is similar to **dr̥k-* in ἔδρακον, **dr̥p-* in Aeol. δρόπωσι (con.), Pi. δράπων. Parallels with two initial consonants are ἔκτυπον ἔστυγον ἔστιχον,⁵¹ with vowel as first phoneme ἥριπε ἥρυγε ἥλυθε (ἔριπ- ἔρυγ- ἔλυθ-) and, the closest parallel, ἀλιτεῖν (ἀλιτ-; pres. *ἀλιτ-αν-ω, cf. ἀμαρτ-άν-ω). In the latter cases the first vowel is, as we saw, a prothetic vowel, i.e. in origin a laryngeal, so that these stems originally had the form *HRe(R)C-* (ἀλιτ- < **h₂lit-* etc.), which meant that **am̥t-* was probably **h₂m̥t-*. Schwyzler, pp. 704 and 748, thinks of a present formant τ, but ὀλισθ- < **h₃lidh-t-* is not an exact parallel of **h₂m̥t-*; ἀλιτ- beside ἀμαρτ- and the form νημερτής point much more strongly to a PIE enlargement *t*.

If this analysis is correct, νημερτής (νᾶμ. Dor.) may therefore be based on **h₂m̥ert-*. The fact that the full grade does not occur again anywhere else points to the great age of the form. It is very frequent in Homer, where it is striking that the word occurs much more frequently in the *Odyssey* than in the *Iliad*: 27 times as against 4 (A 514 Γ 204 Z 376 Ξ 470, and further as the name of a Nereid, Σ 46).

As a cognate Froehde (*BB* 20.215 f.) mentions Lith. *mirštù*, ‘to forget’, Skt. *m̥ṣyati* ‘idem’. The difference in meaning does not seem an insurmountable objection. In that case ἀμαρτ- would go back to **h₂m̥rt-*. The aspiration can then be ascribed to the *s* (Lejeune, *Traité*, pp. 118 and 102). An objection that has been adduced to this is that πστ became στ, not ρτ (Solmsen, *Beitr.*, pp. 1 ff., Lejeune, *Traité*, p. 118). Another objection is that Arm. *moʿanam* ‘to forget’ (*r̥* < *rs*) has no prothetic vowel, as **h₂merst-* would suggest. These two objections, plus the fact that the meaning ‘to forget’ has been preserved everywhere except in Greek and the fact that the aspiration from *s* cannot be demonstrated in identical cases (Lejeune, *loc. cit.*), seem to me to weigh too heavily to maintain the etymology.

Some would like to explain the form from **sh₂m̥rt-*, as Juret did (*Dict. grec et latin*, p. 85), but in my opinion this form would have given **sm̥rt-* > **μαρτ-* (**μρατ-* > **βρατ-*); see p. 85 ff. Moreover, νημερτής calls for an *s*-less form. In my view the basic form cannot therefore have been other than **h₂m(e)rt-* (for the structure compare **h₂m(e)ld-* in ἀμέλδεν etc.). The aspiration remains a difficulty. I see no basis for analogy.

For νωχελίη (T 411) one may therefore posit **h₃ghel-* (**h₃eghl-* > **oghl-*), which, however, is not further known. Connection with ὄχλος, however, is neither formally

⁵¹ Note that this group is very small; only *sC* and *hC* besides κτ.

For $\nu\omega\lambda\epsilon\mu\acute{\eta}\varsigma$ Frisk (with Fick) assumes a substantive * $\delta\lambda\epsilon\mu\omicron\varsigma$, which might be * \acute{h}_3lem- (beside * $\acute{h}_3elm- > *olm-$); cognate with Lith. *lĩmti* ‘zerbrechen’ as ‘uninterrupted’? One might also think of the root $\delta\lambda\epsilon-$ (of $\delta\lambda\lambda\upsilon\mu\iota$), with a development * $\acute{h}-\acute{h}_3lh_1-m- > \nu\omega\lambda\epsilon\mu-$; it cannot be demonstrated that this was in fact the development of such a basic form (rather than * $\nu\omega\lambda\eta\mu-$).

In cases where $\nu\eta$ - was phonetic it cannot be made out whether the variants with $\acute{\alpha}\nu\eta$ - go back to a new formation $\acute{\alpha}\nu\text{-}\bar{\alpha}$ - or to a transformation of $\nu\eta$ - on the analogy of $\acute{\alpha}\nu$ + vowel (i.e. $\acute{\alpha}\nu\eta$ - instead of $\nu\eta$ -). In fact it cannot be determined at all whether compositional lengthening occurred with η - > $\acute{\alpha}\nu$ - before vowel, but this seems probable; see below p. 111. If this were so there were therefore also old forms with $\acute{\alpha}\nu\eta$ -. It will be clear that these then exerted influence on the small group with $\nu\eta$ -. It is also probable in this situation that forms which originally had $\acute{\alpha}\nu\eta$ - sometimes acquired variants with $\nu\eta$ - in epic language (in particular). Such a case could be Hom. $\acute{\alpha}\nu\eta\kappa\epsilon\sigma\tau\omicron\varsigma$: Hes. $\nu\eta\kappa\epsilon\sigma\tau\omicron\varsigma$. One also has this impression with $\acute{\alpha}\nu\acute{\omega}\nu\upsilon\mu\omicron\varsigma$: $\nu\acute{\omega}\nu\upsilon\mu\omicron\varsigma$ (ν)ος.

νόδυνος cannot be phonetic if the interpretation of δδύνη (from **ed-un-*) given above (p. 54f.) is correct.

Returning to the list of pp. 99f., the following may be added.

For νόψ see s.v. νῆστις etc. *supra*. The form seems recent. For the range of meaning cf. νοδός.

The etymology of νήπιος is unknown. As this is not a specific word from the language of poetry, an analysis with νη- before consonant seems improbable. For instance, this is the case with the connection with *mek- 'to speak' ('infans'), i.e. *νη-φεπ-; the same applies to *νη-πφ-ιος with νη-πύ-τιος (e.g. Lejeune, *Traité*, p. 70 n. 2). Pisani (*AGIt.* 31 (1939) 49-51) assumes on the strength of Epicurus, fr. 113,11 Arrighetti, [v]απία original *a*-vocalism, which is now also found in Myc. *naputijo* (personal name). He connects it with Lat. *apiscor*, Skt. *āpnóti*, with the meaning 'ineptus'. This could therefore point to *ḡ-ḥ₂p-, but *a*-vocalism is not certain for *āpnóti* (*ḥēhp-, on account of *īpsati* < *ḥi-ḥhp-): if it is cognate with Hitt. *epmi* (*apanzi*), this points to *ē*. Lat. *ap*- < *ḥhp- allows of no conclusion, any more than *co-ēpi*, on account of *ēgi* beside *ago* (cf. p. 130).

νήλιπος, which comes from ἥλιψ, cannot be old, since the long vowel cannot go back to a laryngeal; the word ἥλιψ itself is not clear.

νήϋτμος is derived from ἄϋτμή, the form of which is not clear; see p. 57 s.v. ἄημι.

f. Vanished Forms

It should also be pointed out that it is not impossible that some forms with ἀνη-, ἀνω- go back to νη-, νω-, as emerges for ἀνωφελής (A.) from Myc. *noperea₂*. These words are, from Homer:

- † ἀνήμελκτος ι 439;
- ἀνήνυστος π 111 (ἀνώω) 'of no effect';
- † ἀνήνωρ κ 301.341, Hes. *Op.* 751;
- ἀνήροτος ι 109.123 (cf. ἀρηρομένη Σ 548; see p. 119);
- ἀνώϊστος Φ 39, -τί δ 92,
- and more recent:
- ἀνηρεφής A.R., ἀνώροφος Lyc.
- ἀνωμοτί Hdt., -τος E.
- and from Hesychius ἀνήμυκτος ἀνήρεστον ἀνωλόφυκτος.

These words can of course also have ἀν- with lengthened vowel (partly through the influence of ἀνη- for νη- ?), which is certain for ἀνήμετος (beside ἀνέμετος) Hp. (originally φ-, Skt. *vāmiti*), ἀνήνιος 'without pain' Hp. (ἀνάνιος Hsch.; ἀνίη < *an-is-īā, Kuiper, *AION* 1 (1959) 157-65), ἀνώροφος (since the δ- is probably based on assimilation in *ἐροφ-), ἀνώμαλος E., Pl. (s-), ἀνώχυρος X. (s-), ἀνήνυστος (s-). With ἀνήροτος and ἀνωμοτί a phonetic development *ḡ-ḥ₂rḥ₃-tos > *nāροτος is conceivable (but see p. 110 s.v. νολεμής). Beside ἀνώλεθρος (Parm.) Homer has ἀνόλεθρος (N 761). For ἀνήνωρ cf. νῶροψ p. 75 f.

3. NATURE OF THE LARYNGEAL

As the development found here is also of great importance to the interpretation of the disyllabic roots, it is useful here to underline the necessity of a basic form $*\eta\text{-}\tilde{h}C\text{-}$.

Theoretically, consideration could be given to explaining $n\bar{e}\text{-}$ etc. otherwise with the aid of a laryngeal. For instance, one could postulate a sound group $*n\text{-}\tilde{h}C\text{-}$. This is impossible because $n\text{-}$ (in this form) is not a PIE form (see above) and because the prothetic vowel (or in general the first vowel of the simplex) cannot have developed from $\text{e}\tilde{h}C\text{-}$ (p. 94 f.).

The group $n\text{-}\tilde{h}_eC\text{-}$ (for the $n\text{-}$ see above) would have given $n\check{a}C\text{-}$, since the laryngeal disappears before vowel (with colouring); for \tilde{h}_e see p. 94 f.

One should start from an element $\eta\text{-}$. If one wants to combine this with the theory of reduced vowels, one gets from $\eta\text{-}\tilde{h}C\text{-}$ (for a refutation of $\text{e}\tilde{h}\text{-}$ *supra*) $> an\bar{a}C\text{-}$. If, as Austin does, one wishes to start from $\tilde{h}_e\text{-}$, then the result would be $\eta\text{-}\tilde{h}_eC\text{-}$, which would have given $an\tilde{h}_eC\text{-} > an(\tilde{h})aC\text{-} > anaC\text{-}$. This development would (of course) be the same as that of $\eta\text{-}\tilde{h}eC\text{-}$ (p. 110 s.v. $\nu\eta\kappa\epsilon\sigma\tau\omicron\varsigma$).

With vocalic laryngeal $\eta\text{-}\tilde{h}C\text{-}$ (an otherwise inconceivable structure) would in my opinion have led to $anaC\text{-}$.

The only possibility that thus remains is $\eta\text{-}\tilde{h}C\text{-}$, which for the consonantal laryngeal is in agreement with the conclusion regarding the prothetic vowel (p. 95), and for the $\eta\text{-}$ presupposes the only form of the negative element that PIE seems to have had in compounds.

4. SUMMARY

If one summarizes the above one can give the following sketch of the problem of the forms with $\nu\eta\text{-}$ and $\nu\omega\text{-}$.

There is no indication that PIE knew other forms of the negative than $\eta\text{-}$, ne and $n\bar{e}$. $N\bar{e}$ cannot explain $\nu\bar{u}\text{-}$, $\nu\omega\text{-}$. The length may be explained by contraction of ne with following vowel, which forms can be demonstrated to be the oldest. However, there are the following objections to this explanation:

(1) ne is sentence negation and is not used in compounds. The extension of ne in Latin and Balto-Slavic is clearly secondary.

(2) Greek has no trace of ne . As $\omicron\upsilon$ is probably cognate with Arm. $o\check{\varsigma}$, this replacement took place at a very early stage.

(3) One would also expect ne before consonant, as in Latin and Balto-Slavic.

(4) The forms with $\nu\eta\text{-}$, $\nu\omega\text{-}$ appear very frequently in words with prothetic vowel, which did not yet exist as a vowel in PIE.

(5) An early Greek contraction $ne\text{-}a > n\bar{a}$, $ne\text{-}o > n\bar{o}$ has not been demonstrated.

These considerations lead to the origin being sought in $\eta\text{-}$. If this is combined with the fact that among the oldest forms many words with prothetic vowel occur, of which

it is plausible on other grounds too that it developed from a PIE laryngeal, one arrives at a basic form $\eta\text{-}\tilde{h}C\text{-}$. It is obvious to assume a development $\eta\tilde{h}_1C\text{-} > n\tilde{e}C\text{-}$, $\eta\tilde{h}_2C\text{-} > n\tilde{a}C\text{-}$, $\eta\tilde{h}_3C\text{-} > n\tilde{o}C\text{-}$, to which the disyllabic roots also point.

The secondary development of this type may be outlined as follows.

In Homer the type has already been extended to forms with vowel of another origin (also $\tilde{h}e\text{-}$, where one would expect $\eta\text{-}\tilde{h}e\text{-} > an(\tilde{h})e\text{-}$: $\nu\eta\nu\epsilon\mu\acute{\iota}\eta$ from $\tilde{\alpha}\nu\epsilon\mu\omicron\varsigma < *h_2en\tilde{h}_1\text{-}mos$). Even in Homer these forms are replaced by $\acute{\alpha}\nu\eta\text{-}$, $\acute{\alpha}\nu\omega\text{-}$ ($\acute{\alpha}\nu\eta\kappa\omicron\upsilon\sigma\tau\acute{\epsilon}\omega$), a development which is continued in the living language. In Homer one finds on the other hand extension to words beginning with consonant ($\nu\tilde{\eta}\acute{\iota}\varsigma$ $\nu\eta\kappa\epsilon\rho\delta\acute{\eta}\varsigma$ $\nu\tilde{\eta}\pi\omicron\iota\nu\omicron\varsigma$ $\nu\eta\pi\epsilon\nu\theta\acute{\eta}\varsigma$). This extension was not continued again until the Hellenistic authors and probably belongs to artificial language, notably that of the epic. Not only were these forms regarded as typically epic, but they also had great expressive force ($\nu\eta\tau\rho\epsilon\kappa\acute{\eta}\varsigma$, $\nu\tilde{\eta}\phi\rho\omega\nu$). $N\omega\text{-}$ is never found from words that begin with consonant. Some of these words escaped the general tendency and still live on in New Greek. This will be due to the fact that they are no longer sensed as negatives. One finds $\nu\eta\nu\epsilon\mu\acute{\iota}\alpha$ $\nu\tilde{\eta}\sigma\tau\iota\varsigma$ $\nu\omega\delta\acute{o}\varsigma$ $\nu\omega\theta\rho\acute{o}\varsigma$ $\nu\omega\chi\acute{\epsilon}\lambda\epsilon\iota\alpha$ ($\text{-}\acute{\eta}\varsigma$).

C. ATTIC REDUPLICATION

1. THE PROBLEM

Attic reduplication is the name given to that form of reduplication in Greek in which the reduplicating syllable consists of the first vowel + consonant and in which the vowel of the second syllable is lengthened: $\acute{\epsilon}\lambda\acute{\eta}\lambda\omicron\upsilon\theta\alpha$ from the stem $*\acute{\epsilon}\lambda\epsilon\upsilon\theta\text{-}$. Until relationship of other forms has been demonstrated, the term should be reserved for this phenomenon. The name 'Attic' comes from the frequent occurrence of this form in Attic prose, but it is general in Greek, being for instance common in Homer.

Before the interpretation with the aid of the laryngeal theory, there was hardly an attempt to explain this form of reduplication in existence. Schwyzler (p. 766) regards some as transformed from the type with lengthening, $\delta\rho\omega\alpha$ for $*\acute{\omega}\rho\alpha$, cf. Skt. $\acute{a}ra$, $\acute{o}\delta\omega\delta\alpha$ cf. Lith. $\acute{u}ode\varsigma$ (here, however, the present too has a long o , $\acute{u}od\acute{z}iu$ $\acute{u}osti$ from $*\acute{o}d\acute{i}\acute{o}$). Mention may also be made here of Goth. $\acute{o}g$, OIr. $ad\text{-}\acute{a}gor$ (cognate with Gr. $\acute{\alpha}\chi\omicron\mu\alpha\iota$); $\acute{\eta}\chi\alpha$, Skt. $\acute{a}ja$ (although this form is confined to grammarians), Lat. $\acute{e}gi$, OIcel. $\acute{o}k$. It should be noted that we are concerned here solely with monosyllables, for which this explanation is in my opinion correct (*infra*, p. 121); however, the type $\acute{\epsilon}\lambda\acute{\eta}\lambda\omicron\upsilon\theta\alpha$ can hardly have been created entirely on the pattern of $\delta\rho\omega\alpha$; $\delta\rho\text{-}$ (: $*\acute{o}r\text{-}$) : $\delta\rho\omega\rho\text{-}$ = $\acute{\epsilon}\lambda\upsilon\theta\text{-}$ (: $*\tilde{e}\text{-}ludh\text{-}$) : x ought then to have given $\acute{\epsilon}\lambda\eta\lambda(\omicron)\upsilon\theta\text{-}$. But the replacement of $*\acute{o}r\text{-}$ by $*or\acute{o}r\text{-}$ is not understandable in itself and calls for elucidation.

By way of explanation Schwyzler has therefore assumed (p. 766 n. 8) that for instance $*rip\text{-}$ was reduplicated into $*r\acute{e}rip\text{-}$ and then became $\acute{\epsilon}r\eta\rho\iota\pi\text{-}$ with prothesis.

However, there are serious objections to these two assumptions. There is nothing to show that the Greek prothesis was added to the separate forms. The so-called 'prothesis' forms a fixed component of the stem. Compare the criticism of Kurylowicz' second explanation, p. 122f.

A second objection is that there is no evidence of intensive reduplication with \bar{e} in Greek; it would after all be inexplicable if this occurred or was preserved only in combination with prothesis. Two cases of such reduplication are mentioned, ἐγρήγορα and δηδέχεται. To regard ἐγρήγορα, which in the first instance stands for *ἐγήγορα, as *γήγορα + prothesis ἐ- and then to use it as an argument for the theory stated here of the origin of Attic reduplication is a *petitio principii*. For the relation to Skt. *jāgāra* see pp. 117f. and 121. There remains δηδέχεται, which is a very unclear form, calling for more detailed discussion.

The spelling δηδέχεται is based on a suggestion by Wackernagel (*infra*); the manuscripts everywhere give δειδ-. The word seems more or less to mean 'to greet, welcome' and is generally considered to be cognate with δειδίσκομαι, δεικανάομαι and δεικνύμαι with the same meaning. L. Meyer (KZ 7.201) suggested on the basis of the comparison with Ved. *dāśnoti* 'offers, honours a god, grants' that δεικνύμενος should be changed into *δηκνύμενος. Wackernagel (BB 4 (1878) 268 ff.) was of the opinion that δειδέχαι also derived from *δηκ- and that δει- stands for δη-. How he sees this is evidenced by the following (p. 269): 'Allerdings zeigt sich der alte \bar{a} -laut in δειδέκτο zu ε, in δειδίσκομαι sogar weiterhin zu ι verkürzt; allein durch die Vergleichung des Vedischen *bābadhe* aus *bādh-* werden wir berechtigt δηδέχαι' ... zu schreiben, so dass wir den \bar{a} -Laut wenigstens in der Reduplikationssilbe erhalten finden'. Therefore he believes that δηκ- was shortened to δεκ- and that δη- in the reduplicating syllable was the repetition of the original root δηκ-, i.e. *δη-δηκ- > *δη-δεκ- (as with *bā-badh-*). Others interpreted the δη- reconstructed in this way as intensive reduplication (as *bā-* in Vedic), without mentioning Wackernagel's δεκ- < δηκ-. In this form the theory is accepted by Bechtel, *Lex.*, p. 96, Schwyzler (e.g. p. 648), Chantraine, *Gr. Hom.*, pp. 317f., 433f., Frisk s.v. δηδέχεται. In my opinion it has no foundation. There is nothing in Greek that points to a root form δηκ-. The reduplication type δηκ-:δη-δεκ-, which Wackernagel reconstructs on the strength of *bādh-*:*bā-badh-*, does not exist. Ved. *bābadhe* is secondary, since one would expect **bābidhe*; it has been formed on the example of roots with short stem vowel *a* and intensive reduplication (in active forms), the type *dā-dharti* of the root *dhar-*. Thus, as Wackernagel himself says, the only basis for the reconstruction δηκ- disappears, and *a fortiori* for the reduplicating syllable δη-. There is thus nothing in favour of changing δει- into δη-, apart from the existence of intensive reduplication in Indian. However, there is no evidence in Greek of such reduplication, so that it is not permissible to construct one such form by conjecture, the more so since a simple explanation can be found in Greek itself. Δει- may be based on metrical lengthening in *δεδεχεται, as in δεικανόωντο if δεκανῶται (·ἀσπάζεται Hsch.) has the original stem δεκ-.

Both suppositions on which Schwyzler's explanation is based are therefore improbable, so that the latter does not have a sufficient basis in fact.

As against the explanation by De Saussure, *Mél. Graux*, p. 743, by rhythmic lengthening of a group $\cup\cup\cup$ to $\cup-\cup$, it may be adduced that the third syllable in the type *ἐλελουθ- is long in the singular. Nor can the opposition ἀραρεῖν : ἄρηρα, ὀρορεῖν : ὄρωρα be explained in this way. Moreover, this presupposes a reduplication of the type **el-eloudh-*, which is not plausibly of PIE origin. Roots of the structure *VCV(R)C-* (i.e. like ἐλελυθ-) are not PIE. For then one would have to assume a root **el-*, which with enlargement would have given **l-eu-(dh-)*, not **el-eu-*. This type is therefore first of Greek origin, i.e. it first acquired this form in Greek. There is little support in Greek for a reduplication type *ἐλ-ελουθ-. The forms that are regarded as such are (Schwyzler, p. 766): ἐρέριπτο (Ξ 15), ἀκάχημαι (Hom.), ἀκαχμένος (Hom.), ἀλάλημαι (Ψ 74; -ήμενος (accent) *Od.*), ἀλαλύκτῃμαι (only K 94). Ἐρέριπτο is an unexplained form. L. Meyer suggested reading *ἔφριπτο, which seems to me an unwarranted interference with the text. Schwyzler's suggestion (p. 766) that ἐρεριπ-/ἐρηριπ- (in κατερήριπε Ξ 55) developed on the example of ἔριπε/ῆριπε does not seem to be an adequate explanation, since one would then expect such interchanges more frequently. After all, forms with and without augment occur very often side by side and there is nothing to show that this led to confusion. I regard ἐρεριπ- as an artificial form from epic language which is based on incorrect interpretation of other forms, although I cannot state which (ἀκαχ- beside ἀκηχ-?). For ἀκάχημαι beside ἀκηχ- see p. 119. I there regard the second form as a transformation of the first for metrical reasons, and the first as based on the aorist. Ἀκαχμένος is regarded as *ak-ak-s-menos* (Frisk s.v.), and is therefore a case of total reduplication. It has been presumed that ἀλάομαι and ἀλύω have the same root, in my opinion without sufficient reason. Beside ἀλαλύκτῃμαι Hesychius gives ἀλαλύσθαι· φοβεῖσθαι, ἀλύειν. I assume that these forms go back to reduplication of the whole root and regard ἐρέριπτο and ἀλαλύκτῃμαι as anomalies, the latter possibly under the influence of ἀλάλημαι. In this way Myc. *araromotemena* 'ararmotmena' will have derived its reduplication from *araruja* (*infra*). It does not seem certain to me that these forms are in origin perfect forms; cf. ἀλαλύσθαι, ἀλαλήμενος (accent) and what has been said about ἀκάχημαι, p. 119. The conclusion is, I think, that we have here a very small group of strange forms which do not offer sufficient support for the presumed reduplication type (*ἐλ-ελουθ-).

In *Eos* 30.206-11 Kurylowicz⁵² has suggested an explanation by means of the laryngeal theory. The stem *ἐλελυθ- goes back to PIE **h₁leudh-* and the reduplication syllable consists of the first two consonants + the reduplicative vowel *e*, i.e. **h₁le-h₁loudh-* > ἐλελουθ-; or from the root **h₁nek-* in ἐνεγκεῖν, **h₁ne-h₁nok-* > ἐνηνοκ-.

⁵² W. Winter, who says in *Lg* 26 (1950) 533: "Sturtevant has shown (*Indo-Hittite Laryngeals* (1942) 68) that the lengthening of the reduplication syllable in the Sanscrit perfect type *vāvāsa* [v. *infra*] is often caused by the original presence of an initial laryngeal in the root; I have identified such forms with the so-called Attic reduplication perfects in Greek" was therefore, even if independent, certainly not the first.

The length of the second syllable was therefore caused by compensatory lengthening after the fall of the laryngeal in *-eHCV-*. He claims that the first vowel is an originally consonantal laryngeal vocalized in Greek, i.e. a phenomenon identical with that of the prothetic vowel. This therefore implies that this manifestation of Attic reduplication could occur only in Greek (and Armenian). It is therefore all the more advisable first to study the Greek material, to see whether and to what extent this explanation is tenable.

2. THE MATERIAL

A survey first follows of the forms with Attic reduplication, classified according to the time in which they are first demonstrable and to their formation. However, the forms are not included which evidently go back to older cognates (ἐρήρεικα Dsc., (προσ-) Plu. going back to ἐρήρεισμαι Hdt. Hp.; ἀλήλεκα *A.P.* (Nicarch., I A.D.), going back to ἀλήλε(σ)μαι Hdt., Hp.) and forms which did not appear until after the beginning of the Christian era (ἀρήρεκα from ἀρέσκω Corn. (I A.D.), ἐρήριμμαι from ἐρείπω Arr., ἐμήμεκα Luc., ἐγήγεγκα Philostr.). The latter may not be expected to be of importance to the origin of the reduplication. For instance, ἐμέω originally began with ʔ- in view of Skt. *vámiti*. Ἐμήμεκα must therefore be a recent form, which probably developed on the analogy of forms like ὤμοσα : δμώμοκα (= ἦμεσα : x). The same applies to ὀράω (ξωρων < *ἦ-ʔop-), so that ὀρώρηκα Herod. cannot be old; Attic has here ἐδῶκα Ar., from ʔe-ʔop- (see LSJ s.v. ὀράω). From the same stem there appears in Ψ 112 ὀρώρει, which belongs to ὀρομαι (however, in Mycenaean this does not have a *w-*: *oromeno* 'oromenos').

The survey is followed by a short discussion of the individual forms insofar as there is anything to say about them.

stem	Homer (Myc.)	V, IV B.C.	Hellen.
<i>o</i>	ἐγρήγορθα εἰλήλουθα ? ἄ-, ἐνήνοθε	ἐγρήγορα Ar. ἀκήκοειν Hdt. ἐνήνοχα D., μετ- Pl. ἐνήνεγμαι Pl., εἰς- E.	
<i>zero</i>	-ερήριπε (Ξ 55) ὀδώδυσται (ε 423)	ἐρήριγμαι Hp. ἀλήλιμμαι Th. ἀλήλιφα D. ὀρώρυχα Pherecr. ὀρώρυγμαι Hdt. ἐρήρισται Hes.	
<i>e Med.</i>	ἀγηγέρατο ἐρηρέδαται	ἐλήλεγμαι Pl. (ἐνήνεγμαι Pl., εἰς- E.)	

	ἡρήρειστο ὄρωρέχεται ἀκηχέ(δ)αται		
<i>disyll.</i>	ἐλήλათαι ὄλωλα ἀρηρομένη (Σ 548)	ὀμώμοται A. ὀμώμοκα Ar., E. ἀλήλε(σ)μαι Hdt., Hp.	
<i>monos.</i>	ἄρηρα (<i>araruja</i>) ἐδηδώς (P 542) ἐδήδοται (χ 56) ὀδῶδει (ε, ι) ὄπωπα ὄρωρα ὀρώρει (Ψ 112)		
<i>anomalous</i>	<i>araromotemena</i> ὕπεμνήμυκε (X 491) συνοχωκότε (B 218) ? συναρήραται· συγκεκόπται Hsch.	(ἀραίρηκα Hdt.)	ἀγήγοχα inser. ὀρώρηκα Herod.

When assessing these forms allowance should be made for the original apophonic relations, *o*-vocalism in the indicative singular, zero in the indicative plural, the feminine participle and the entire middle (insofar as that is old), *e*-vocalism in the masculine participle and the conjunctive and optative. This situation has only seldom been preserved. Usually extension of one of the apophonic phases has taken place, usually of the zero grade or the *o*-phase, rarely of the full grade with *e*; after all, conjunctive and optative perfect are very uncommon. The perfects with *e* are usually recent forms, although the participle may have stimulated this development. Cf. Schwyzer, p. 771. Middle perfects are in general recent; *idem*, p. 765 n. 4.

ἐγρηγόρθασι. For the θ, only in Homer, see Chantraine, *Gr. Hom.*, p. 429; Att. ἐγρήγορα (Ar.) is therefore probably the form to be taken as a starting-point for further examination. It is generally assumed that the first ρ developed by anticipation, partly under the influence of the aorist ἔγρετο. On the strength of the comparison with Skt. *jāgāra* (perf. of the root *gr-*, pres. *jārate*), one starts from an original *γῆγορα (Schwyzer, p. 648 with n. 3, Chantraine, *Morph.*², p. 186), so that the ἐ- from ἔγρετο must also have been taken over (Chantraine; better than interpreting ἐ- as prothesis, as Schwyzer does). It seems to me that one is too quick to compare with the other languages here. In Greek, apart from *δηδέχεται discussed above, there is not a single case of a reduplication vowel ē, so that it is not advisable to make *γῆγορα into an independent category. Viewed from Greek, *ἐγῆγορα differs in no way structurally from ἐλήλουθα, ἐνήνοχα, ἀκήκοα, so that the most obvious thing

is to leave *ἐγγήγορα with the other cases of Attic reduplication until the untenability has been demonstrated.

εἰλήλουθα II. Od. *passim*. Eī- is metrical lengthening. Att. ἐλήλυθα has generalized the zero grade.

ῥά-, ἐνήνοθε. It is difficult here to determine the original form. Homer has ἐπενήνοθε (B 219 ~ K 134, ψεδνή (K οὔλη) δ' ἐπενήνοθε λάχνη; θ 365) and ἀνήνοθεν (Λ 266, αἶμα; ρ 270 (v.l. ἐν-), κνίση). Aitchinson, *Glotta* 41 (1963) 271-8, hesitantly defends the connection with ἄνθος, which would therefore presuppose **h₂endh-/h₂nedh-*. The connection between ἄνθος and Skt. *andhas-* may be abandoned, also because this means 'juice of the soma plant', Burrow, *Arch. Ling.* 6 (1954) 61. It is probable and understandable that the forms discussed here were connected at an early stage with ἄνθος. Compare beside B 219 ~ K 134 (*supra*) λ 319 f.: πρίν σφωῖν ὑπὸ κροτάφοισιν ἰούλους | ἀνθῆσαι πυκάσαι τε γένος εὐανθεί λάχνη. In ἀνήνοθε too the influence of ἀν(α)- may be envisaged. It therefore seems somewhat more probable that ἐνήνοθε is the original form, since its development from ἀνήνοθε is not explicable. In that case the connection with ἐνθεῖν (cf. Frisk) is possible, with as Greek stem forms ἐνθ-/ἐνεθ-, i.e. PIE **h₁endh-* (*h₁pdh-* ?)/*h₁nedh-* (so that in the other languages **nedh-* is expected for the latter form; Frisk's notation ἐνεθ- : ἐνοθ- : ἐνθ- may give an incorrect picture). Ἐνήνοθε then has Attic reduplication (which would also be obvious even if ἀνήνοθε were original, rather than ἀν(α) + ηνοθ-, since old perfects of this structure are rare). It is not clear to me how one must picture ἐν- and ἀν- "als verschiedene Reduplikationsformen" (Frisk).

ἐνήνοχα Pl., has the expected *o*-vocalism; ἐνήνεγμαι on the other hand, with *e* in the middle, is a more recent form.

-ερήριπε, only Ξ 55 τεῖχος μὲν γὰρ δὴ κατερήριπεν, has the zero grade of ἐρειπ- generalized from the plural. (Chantraine, *Gr. Hom.*, p. 426 with n. 3, unnecessarily sees a problem here.) The intransitive meaning (which incidentally is not certain) might confirm the age of the form. Ἐρέριπτο Ξ 15 is unclear; the middle form seems to suggest that this is a later form; see p. 115.

ὀδῶδυσται ε 423 belongs to the aorist ὀδύσσασθαι; further analysis is uncertain, see Frisk.

ἐρήριγμαι, middle form of ἐρεῖκω.

ἀλήλιφα D., either under the influence of ἀλήλιμμαι and then a later formation or, if old, with extension of the zero grade of the plural.

ὀρώρυχα Pherecr. As ὀρυχ- no longer has a trace of ablaut in Greek, formation within Greek is more probable than that the zero grade of an old perfect has been generalized.

ἐρήρισταί Hes. fr. 308 MW, from ἐρίζω. Although there are no formal objections, this seems to me a form constructed by Hesiod.

ἀγηγέρατο Δ 211 Y 13 λ 388 ω 21. The middle form with *e*-vocalism must be a recent formation, like ὀρωρέχαται, ἐλήλεγμαί, ἐνήνεγμαι and the following form.

ἐρηρέδαται Ψ 284. 329 η 95 has been the subject of an attempted replacement by ἐρηρίδαται with the zero grade to be expected in the middle; cf. Chantraine, *Gr. Hom.*, p. 170 (Aeol. ρι > ρε?). The form ἡρήρειστο Γ 358 = Δ 136 = Η 252 = Λ 436 καὶ διὰ θώρηκος πολυδαίδαλου ἡρήρειστο has full grade; ἐρήρεισμαι Hdt., Hp.

ἀκηχέ(δ)αται P 637 as against ἀκάχημαι is regarded as an instance of the occurrence of the long second syllable beside the original short one. The first form further occurs only in ἀκηχεμένη (E 364) and ἀκηχεμέναι (Σ 29). Elsewhere (Il. Od.) ἀκάχημαι (-ται, -σθαι) ἀκαχήμενος⁵³ is the rule. As *ἀκαχη-μένη cannot be used in the hexameter, it seems to me probable that this is a metrical question; the η had to be shortened (*ακαχε-μένη) and the second of the (then) four short initial syllables had to be long, which is why ἀκαχη- was replaced by ἀκηχε-, which may be regarded as a metathesis (ordinary metrical lengthening would have given *ἀκᾱχε-). The same applies to the form ἀκηχέ(δ)αται. See further Chantraine, *Gr. Hom.*, p. 435. The stem ἀκαχ- comes from the aorist (ἀκαχεῖν Hom.), where total reduplication is normal (ἀγαγεῖν, ἀραρεῖν, ὀρορεῖν), on which the present ἀκαχίζομαι (Hom.) has also been built.

ἐλήλαται is from the disyllabic root ἐλα-. For the ablaut forms of these roots see below. One further finds ὤλωλα from the root ὀλε-, ἀρηρομένη from ἀρο-, only in Σ 548, ὁμώμοται from ὁμο- and ἀλήλε(σ)μαι from ἄλε-.

ἄρηρα. For the participle ἀρηρῶς ἀραρυῖα see p. 121 f. *Αρηρε only in ε 248 as *varia lectio* for ἄρασσεν; ppf. ἀρήρει Il. (5 times) and ρ 4.

ἐδήδως P 542; ἐδήδοται χ 56 after the example of πέποται: ὅσσα τοι ἐκπέποται καὶ ἐδήδοται ἐν μεγάροισι (but the form may of course be older than this verse).

δδῶδει ε 60 and ι 219 (δδμη ... δδῶδει).

δρῶρει see above p. 116.

araromotemena 'ararmotmenā'; the length of the second *a* is not known. Attic has ἡρμοσμένοι.

ὑπεμνήμυκε (X 491) of ἡμύω with long first vowel stands alone in the whole group; see Bechtel, *Lex.*, p. 159.

συνοχωκότε B 218. An unclear form, see Chantraine, *Gr. Hom.*, p. 424. Old Attic reduplication is improbable, since the root was PIE *segh-.

ἀραίρηκα Hdt. (from αἰρέω) has an entirely different form of reduplication.

ἀγήγοχα (inscr. III B.C.) for older ἤχα (inscr. VII/VI B.C.) will have been constructed on the analogy of ἐνήνοχα, in view of the fact that ἄγω and φέρω supplement each other semantically ('bring of living creatures' and of 'things'; cf. the expression ἄγειν καὶ φέρειν).

δρῶρηκα see above p. 116. The form does not appear until late; the old perfect is ὄπωπα.

συναρήρακται Hsch. is undatable.

⁵³ The accent is perhaps Aeolic, cf. Hes. *Th.* 868 ἀκάχων (mss.; -ών, -ων papp.); M. L. West, *Hesiod, Theogony*, p. 82.

3. CONCLUSIONS AND INTERPRETATION

A glance at the survey shows that a large percentage of these forms are already known from the oldest Greek, that a smaller group, some of which may be old, does not appear until later, while another part consists of more recent formations, and that in the Hellenistic period too and even later new forms are still added. On the strength of the above I believe that we need only further take into account the following forms if we wish to investigate the origin of Attic reduplication. The middle perfects have been put separately.

stem:	<i>VCV(R)C-</i>		disyll. roots	monos. roots
<i>o-grade</i>	<i>zero grade</i>	<i>e-grade</i>		
ἐγρήγορα	-ερήριπε		ὄλωλα	ἄρηρα
εἰλήλουθα	? ἀλήλιφα		? ὁμώμοκα	ἐδηδώς
ἐνήνοθε				ὀδῶδעי
ἐνήνοχα				ὀπωπα
ἀκήκοα				ὄρωρα
Med.	ἐρήριγμαι	ἀγηγέρατο	ἐλήλαται	
	ὀδῶδυσται	ἡρήρειστο	ἄρηρομένη	
	ὀρώρυγμαι	ὀρωρέχεται	ἀλήλε(σ)μαι	
		ἐλήλεγμαι		

If this list is studied, these forms, viewed from Greek, can be divided into three groups: (1) stems of the type ἐλευθ- (*VCV(R)C*), (2) disyllabic roots (ἐλα-, *VCV*) and (3) monosyllabic roots (ἄρ-, *VC*). In PIE the second group had the structure *VCH* (**elh₂-*), while, with the possible exception of ἐλα-, the first phoneme of these words will likewise have been a laryngeal, having regard to their vocalism (ὄλε- < **h₃elh₁-*); see pp. 129, 131. The first vowel of the first group is a 'prothetic vowel', i.e. the first phoneme was likewise a laryngeal (ἐλευθ- < **h₁leudh-*). The first two groups therefore had in PIE an identical structure *HCe(R)C-* (2. *HCeH*, e.g. **h₃leh₁-*/**h₃elh₁-*). The last group, on the other hand, has the structure *VC-*. With the possible exception of ἔδω it is probable, having regard to their vocalism, that they began with laryngeal, ἄρ- < **h₂er-*, ὀπ- < **h₃ek^u-*.

It therefore follows from this that practically all roots of the old forms that have Attic reduplication started with laryngeal. In itself this does not convey much. As these stems began in Greek with vowel, it is probable that most of them began with laryngeal in the proto-language. But what is striking is that the majority of the forms consist of the type *VCVC-*, which in the proto-language must have been *HCV C-*, and therefore had laryngeal before consonant. This leads to the supposition that it is in this type that the origin of this form of reduplication must be sought. The same type

proved responsible for the forms with prothetic vowel and for the negatives with $\nu\eta$ -, $\nu\omega$ -. However, one would expect from for instance $*\tilde{h}_1loudh$ - in accordance with the normal pattern $*\tilde{h}_1e-\tilde{h}_1loudh$ - $>$ $*\tilde{\eta}\lambda\omicron\upsilon\theta$ -. The form studied here may be explained by assuming that the first two consonants were repeated, the second laryngeal causing the length of the vowel of the reduplicative syllable and the first (in Greek) becoming a short vowel just like the prothetic vowel: $*\tilde{h}_1le-\tilde{h}_1loudh$ - $>$ $\tilde{\epsilon}\lambda\eta\lambda\omicron\upsilon\theta$ -. That the first vowel corresponds to the prothetic vowel is evidenced by Skt. *jāgāra*, which may be explained from the same basic form as $*\tilde{\epsilon}\gamma\eta\gamma\omicron\alpha$ (in $\tilde{\epsilon}\gamma\rho\eta\gamma\omicron\alpha$), i.e. $*\tilde{h}_1ge-\tilde{h}_1gor$ -. In this way the Indian form is a neat confirmation of Kurylowicz' explanation. At the same time it proves that $*\tilde{\epsilon}\gamma\eta\gamma\omicron\alpha$ is not an independent case of intensive reduplication in Greek but is in complete accordance with the other forms of Attic reduplication.

The disyllabic roots may have had the same forms. With $\delta\lambda\epsilon$ - ($*\tilde{h}_3el\tilde{h}_1$ -) one would in that case have to start from the form $*\tilde{h}_3lo\tilde{h}_1$ -, so that $*\tilde{h}_3le-\tilde{h}_3l(o)\tilde{h}_1$ - $>$ $\delta\lambda\omega\lambda(o)$ - was obtained.

The situation is more difficult with the roots of the type HeC -. In the case of the forms with o -vocalism there is in my opinion nothing more to be expected there than the normal type of reduplication, e.g. $*\tilde{h}_3e-\tilde{h}_3or$ - $>$ $*\tilde{\omega}\rho$ -; these forms are consequently found in Skt. *dra* etc. (see p. 113). It therefore does not seem probable that in this case the forms with Attic reduplication go back to PIE. Perhaps this is also indicated by Skt. *īkṣate* 'to see', from the same root as $\delta\pi\omega\pi\alpha$. There is no reason why this reduplication should not also occur with the vowel i , so that one would then expect $*\tilde{h}_3k^u-\tilde{h}_3k^u$ -, Skt. **cikṣate*, but the form *īkṣate* must go back to $*\tilde{h}_3i-\tilde{h}_3k^u$ - (see p. 129). However, it is difficult to make out when and in what way these forms did develop. As they too begin largely if not exclusively with laryngeal, it might be thought that these forms arose at a time when the laryngeal still existed as an independent phoneme. The transition could then have taken place in the zero grade:

$*\tilde{h}_1ne-\tilde{h}_1nek$ -	$*\tilde{h}_2e-\tilde{h}_2er$ -
$*\tilde{h}_1ne-\tilde{h}_1nk$ -	$*\tilde{h}_2e-\tilde{h}_2r$ - \rightarrow $*\tilde{h}_2re-\tilde{h}_2r$ -

As stated, however, the fact that these roots also began with laryngeal need not be of any special significance. We are necessarily concerned with forms that began with vowel in Greek, and most of them doubtless had a laryngeal in the basic language. Perhaps the following consideration indicates that these forms are of recent date.

The form $\tilde{\alpha}\rho\alpha\nu\tilde{\iota}\alpha$ presents a problem. Leumann, *Celtica* 3 (1955) 241-8 = *Kl. Schr.* 251-8, discusses this type. He is of the opinion that only in $\tilde{\epsilon}\tilde{\iota}\delta\tilde{\omega}\varsigma$ $\tilde{\iota}\delta\tilde{\upsilon}\tilde{\iota}\alpha$ is the apophonic difference old and explains $\tilde{\alpha}\rho\eta\rho\tilde{\omega}\varsigma$ as against $\tilde{\alpha}\rho\alpha\nu\tilde{\iota}\alpha$ by $*\tilde{\alpha}\rho\alpha\rho\tilde{\omega}\varsigma$, which became $*\tilde{\alpha}\rho\tilde{\alpha}\rho\tilde{\omega}\varsigma$ and was transformed into $\tilde{\alpha}\rho\eta\rho\tilde{\omega}\varsigma$ after the example of $\tilde{\alpha}\rho\eta\rho\alpha$. However, this would be the only case in which this interchange μ/u had left traces; see Lejeune, *Traité*, p. 70. And in my opinion it presents the difficulty that the existence of $\tilde{\alpha}\rho\eta\rho\alpha$ presupposes Attic reduplication. For one would expect the same reduplication in the other forms of this perfect and therefore also in *all* forms of the participle. The comparison with $\tilde{\epsilon}\tilde{\iota}\delta\tilde{\omega}\varsigma$ $\tilde{\iota}\delta\tilde{\upsilon}\tilde{\iota}\alpha$ does not apply here, since this does not

have any reduplication. If the explanation of Attic reduplication defended here is correct, ἀραρυῖα cannot go back to an old form with laryngeal: both **h₂re-h₂er-us-ih₂* and **h₂re-h₂r-us-ih₂* had without a doubt to lead to **ārp̄ruia*. Unfortunately the Mycenaean forms *araruwoa araruja* are useless, since nothing is known about the length of the vowels. The conclusion is therefore that either ἄρηρα is old and ἀραρυῖα secondary, or vice versa. Now it does not seem probable to me that ἀραρυῖα is secondary, for in historical Greek it could be formed solely after the example of μεμακυῖα (Δ 435), τεθαλυῖα (I 208), λελακυῖα (μ 85), but — whatever the origin of these forms may be — there is no indication that they are older than ἀραρυῖα. It therefore seems that this participle has been built on the stem ἀρ-αρ-, which is found in the aorist. In ἀραρυῖα the form ἀραρ- is therefore not perfect reduplication in origin; cf. the forms ἄγνια, ἄρπυια/ἄρεπυια, ὄργυια/ὄρόγυια, which have the same suffix on a stem that is not reduplicated. Total reduplication with the suffix -μενος is found in ἀκαχμένος (**ak-ak-s-menos*) and probably in Myc. *ajameno* ? **ai(s)menos*. In that case the form ἄρηρα will be more recent. This is perhaps indicated by the fact that the finite forms in Homer are very rare: ἄρηρα etc. does not occur, ppf. ἀρήρει Γ 338 ~ Π 139 ~ ρ 4 (not in Gehring), Κ 265, (ἐπ-) Μ 456, (ἡρήρει) Μ 56; further only the conjunctive ἀρήρη ε 361 (in ε 248 ἄρηρεν as *varia lectio* of ἄρασσεν). If ἄρηρα is secondary, that will also apply to the other forms of this category, although ὄρωρα and ὄπωπα, which are very frequent in Homer, might be older. Are these formed after ὄλωλα (if the explanation given above of this form is correct)?

a. *Criticism; Kuryłowicz' second Explanation*

An essential difficulty is of course that this explanation of Attic reduplication presupposes the repetition of the two initial consonants in the reduplicative syllable. This difficulty induced Kuryłowicz himself later to refute his explanation and to suggest another, *Apophonie*, pp. 269-72. This explanation, which I consider to be untenable, may be discussed here.

In the explanation Attic reduplication started from stems with prothetic vowel which had not developed from laryngeal. Of the stem **leudh-*, for instance, the perfect was normally **le-loudh-*, both of which forms acquired a prothetic vowel, **e-leudh-*, **e-le-loudh-*. Afterwards, on the strength of the present **eleudh-*, the perfect was reanalysed as **el-eloudh-*. Finally, the second syllable was lengthened on the analogy of the lengthening in compounds, e.g. ἔπ-ηλυσ, ποδ-ηνεκῆς.

Kuryłowicz himself already points out that this explanation applies only to roots with prothetic vowel *e*; in the case of *o*, for instance, an auxiliary hypothesis must additionally be assumed. For the perfect **ō-pe-roγ-* of ὀρέγω could hardly be interpreted as **ōp-ερογ-*, with ὀp- as reduplication of ἐρογ- (also in view of the present stem ὀρεγ-). Here **ōper-*, **ōρηp-* would by analogy have to be replaced by ὀpor-, ὀwor-.

Apart from the latter difficulty, there are various insurmountable objections to this attempt at an explanation.

In the first place this view ignores the existence of the laryngeals. In the case of the root $\epsilon\nu\epsilon\kappa$ - beside the forms $*enk-/nek$ -, to which the other languages point, $*h_1nek$ - is after all highly self-evident, while the laryngeal is confirmed by the long augment in Skt. $\bar{a}na\check{t}$.

In the second place this explanation presupposes the existence of prothetic vowels — in the literal sense of the word — of a different origin than from vocalization of a laryngeal. After the above their existence in Greek words of PIE origin must be gravely doubted.

A following point is that prothesis for the separate verbal forms is highly improbable and in my opinion is not demonstrable in Greek. The prothetic vowel forms an indissoluble part of the root. Cf. the criticism of Schwyzler, p. 113 f.

It is extremely improbable that a prothetic vowel upset the old system of reduplication.

Finally — and this is an essential point in the theory — influence of the nominal compositional lengthening on verbal forms is most improbable. It is unacceptable that this could have influenced a reduplication form and have been the cause of an entirely new type.

This explanation is therefore based on a series of hypotheses which are all highly improbable.⁵⁴

b. Consonantism of the Reduplicative Syllable

Although Kuryłowicz' second attempt at an explanation has not been successful, this does not alter the fact that the repetition of both initial consonants remains a problem in his first explanation, that by means of the laryngeal theory.

There is one other case of repetition of the two initial consonants in the reduplicative syllable. This is found in the stems that begin with $s +$ occlusive. For here Iranian, Greek, Italic and Celtic have $s-sT$, but Latin has $sT-T$ ⁵⁵, Indian $T-sT$ and Gothic $sT-sT$; this is also pointed out by for instance Schwyzler, p. 649 n. 1. Cf.

$s-sT$	$sT-T$	$T-sT$	$sT-sT$
Lat. <i>si-sto</i>	Lat. <i>ste-ti</i>	Skt. <i>tí-ṣṭhati</i>	Goth. <i>stai-stald</i>
Gr. $\iota\sigma\tau\eta\mu\iota$	(<i>spo-pondi, sci-cidi</i>)		(<i>skai-skaiþ</i>)
Av. <i>hi-štaiti</i>			

⁵⁴ In the same way Kuryłowicz explains the forms $\epsilon\nu\epsilon\gamma\kappa\epsilon\acute{\iota}\nu$ ($*e-ne-nk$ -), $\acute{\alpha}\lambda\alpha\lambda\kappa\epsilon\acute{\iota}\nu$. One can start here, as Puhvel, *Lg* 30 (1954) 457, does, from Attic reduplication $*h_1ne-h_1nk$ - > $*\epsilon\nu\eta\gamma\kappa$ - > $\epsilon\nu\epsilon\gamma\kappa$ - (probably via $*h_1ne-h_1\eta\kappa$ - > $*h_1ne(h_1)enk$ - on account of $\acute{\iota}\acute{\alpha}\lambda\lambda\omega$ < $*h_2i-h_2l-i\acute{o}$ (p. 129) and $\delta\nu\eta\tau\omicron$ < $*h_3\eta h_2-to$). Incidentally, one would expect this form in the plural of the perfect, but there is no trace of it. Further, $*h_1\eta-h_1\eta\kappa$ - is also possible. Finally, in view of the type $\acute{\alpha}\rho\alpha\rho\epsilon\acute{\iota}\nu$ $\acute{\alpha}\gamma\alpha\gamma\epsilon\acute{\iota}\nu$ $\acute{\alpha}\pi\alpha\phi\epsilon\acute{\iota}\nu$ one might also consider $*h_1en-h_1enk$ - (unless these forms with total reduplication have zero grade; cf. $\eta\nu\acute{\iota}\pi\alpha\pi\omicron\nu$ < $*eni-h_2k-h_2k-om$, p. 129, n. 59).

⁵⁵ If Phr. *tetikmenos* is based on $*ste-tig-menos$ (from the root $*stig$ -), as Haas, *Phr. Spr.*, p. 88, assumes, one has here too the type $sT-T$.

On the other hand, of the group *s* + sonant, only the *s* is repeated (here, therefore, only Indian, Latin and Gothic are of importance):

Skt. <i>sa-smāra</i>	Goth. <i>saī-slep</i>	Lat. no instance
<i>sa-svāna</i>		

One therefore finds this form of reduplication with *s* before occlusive and with laryngeal before all consonants. Perhaps the phonetic properties of *s* and the laryngeals are the cause of this difference and of the phenomenon in itself. I do not see any other explanation within the system of PIE reduplication, and further investigation of this point would take us too far here.

If, then, this problem remains further unelucidated, this drawback is not in my opinion serious enough to discredit the explanation by means of the laryngeal theory. Apart from this point, it is entirely adequate and no further assumptions are required.

4. INDIAN PARALLEL

A parallel for the Greek forms is found only in Indian. A form *HCe-HC-* must appear everywhere else than in Greek (and Armenian) as *CVC-*. The *jāgdra* already mentioned responds to this. There are some thirty of these forms, Macdonell, *Ved. Gr.*, pp. 352 f. One third of these more or less corresponds to forms with indication of laryngeal (in the form of prothetic vowel) in Greek; Kuryłowicz has pointed to this in *Rocznik Or.* 4 (1928) 196-218. For instance we have:

<i>vāṇṣ-</i>	ἐέρση
<i>mām̐j-</i>	ὀμόργνυμι
<i>rārak-</i>	ῥάρεξω

However, it is not probable that all these forms or even the majority of them find their origin in 'Attic' reduplication. The greatest caution is thus called for here, as may emerge from the comparison of the following forms:

<i>vas-</i> 'to stay'	perf. <i>vāvas-</i>	ᾶ(ῥ)εσα
<i>vas-</i> 'to dress'	<i>vāvas-</i>	(ῥ)έσται
<i>vaś-</i> 'to wish, want'	<i>vāvaś-</i>	(ῥ)έκων

The last two forms therefore certainly do not go back to Attic reduplication.

For an explanation of the Indian forms in quite a different way see Kuryłowicz, *Apophonie*, p. 342 ff.

5. SUMMARY

Summarizing one may say that 'Attic' reduplication is a very archaic formation,

comparable with the negative adjectives with νη-, νω-. That this type goes back to PIE is proved by the fact that traces of it are also still found in Indian. Preserved in an originally very small group of forms, the procedure underwent minor expansion at various times. The phenomenon gives a neat confirmation of the explanation of the 'prothetic vowel'.

6. APPENDIX: NOMINAL FORMS

There are a few nominal forms which are sometimes connected with Attic reduplication. These are the substantives ἀκωκή, ἐδωδή, ὀπωπή, ἀγωγός, -οκωχή and ὀδωδή and the adjective ἐτήτυμος.

Of these, ὀδωδή is evidently very recent, *AP* 9.619, *Plu.* 2.648a. It was almost inevitable that this word was formed beside ὀδωδα ὀπωπα ὀπωπή (ἐδωδή).

-οκωχή will also be recent, since in this case the root originally began with *s* (**segh-*); one finds συνοκωχή 'joining' *Hp.*, ἀν-, διοκωχή 'stay, cessation' *Th.* (ἀνοκωχεύω *Hdt.*), κατοκωχή *Pl.* A theory on the origin of these words is given by Wackernagel, *Gött. Nachr. (Phil.-hist. Kl.)* 1902, 738-40: in composition after preceding -α, an original -αοχη became -ωχη, e.g. *ἀναοχή > *ἀνωχή (beside συνοχή *Ψ* 330); these forms were later clarified by the insertion of -οχ-, *ἀν-οχ-ωχή > ἀνοκωχή. It is indeed striking that this word occurs solely as a compound (ὀκωχή only with grammarians).

ἀγωγός 'leading, guiding' *Hdt.*, *Th.*, -εὺς 'haulier' *Hdt.*

The other words are known from Homer.

ὀπωπή 'sight' (both 'view' and 'power of seeing') only in the *Odyssey*, at the end of the verse, in the genitive, ι 512 and γ 97 = δ 327 ~ ρ 44.

ἐδωδή also occurs only at the end of the verse (*Il. Od. passim*).

ἀκωκή also at the end of the verse (except *Φ* 60) is restricted to two formulas: ἦλυθ' ἀκωκή (6 times) and δουρὸς ἀκωκή (7 times).

Schwyzler (p. 423) compares the type ἀπαφός ('ἔποψ; *Lat. upupa*; but is this PIE?), ὄλολος (*Lat. ulula*): "dieser Typus ist, im Anschluss an die Perfektbildung, produktiv geworden". However, the comparison with the cases mentioned here seems incorrect to me; these are onomatopoeic (as Schwyzler also posits), while in my opinion a sound-imitating element is entirely absent from ἀκωκή etc. Nor can *ak-ak-* for instance have been the starting-point of ἀκωκή. Influence of the perfect cannot explain the ω. Attic reduplication does have a long second syllable, but of the same timbre as the first. This explanation would therefore be possible only for ὀπωπή. However, there is no indication that ὀπωπή is older than ἀκωκή or ἐδωδή, while further there is nothing either formal or semantic that makes influence of ὀπωπή comprehensible. The explanation by means of the perfect with Attic reduplication must therefore lapse. True, ἐτήτυμος answers to this scheme, but it is not certain that this word has been formed in the same way as ἀκωκή.

What the origin of this type is remains unclear at present. I see no explanation from Greek. If a PIE type forms the basis, one could start from two forms, $*h_2ek-$ $h_2ōk-$ -or $*h_2(e)ko-h_2k-$; however, I know parallels for neither of the two formations. (For the type Skt. *tāṭṛpi-* see Kuryłowicz, *Apophonie*, p. 344.) Chantraine's notation (*Morph.*², p. 6) $*h_2ĝ-oh_2ĝ-$ does not explain the formation either.

II. BEFORE VOWEL

The laryngeal that stood at the beginning of the word before vowel disappeared after \hbar_2 and \hbar_3 had coloured following e , $\hbar_2e- > a-$, $\hbar_3e- > o-$; \hbar_1e- may be found represented as $e-$. Following o is not changed, i.e. $\hbar_1o- > o-$, $\hbar_2o > o-$ ($\hbar_3o- > o-$ is self-evident). Since the result of this colouring is found in all languages, it may be assumed that this took place in the common language.

Owing to the fact that this colouring was completed in the proto-language, it is difficult to demonstrate the laryngeal in this position. The most important facts on which the proof is based here are: the data of Hittite, apophonic phenomena and the improbability of a PIE phoneme a elsewhere than in a very limited group of words (see below for this). We shall successively discuss the material for the three phonemes.

1. THE MATERIAL

a. H_2

Hittite has only one or two forms that are important here.

ἀντί. The \hbar of Hitt. *ḫanti* points here to laryngeal, which is confirmed by Lyc. *ḫñtawata* 'army-leader' (Hitt. *ḫa-an-te-iz-zi-iš* 'first'). Here PIE **ḫanti* is conceivable but, also having regard to Hitt. *ḫanza* 'front', from which *ḫanti* is derived, **ḫ₂enti* is more probable. This reconstruction is therefore based in the main on the third principle stated above.

ἄργυρος belongs with ἀργός, Hitt. *ḫarkis*, so that laryngeal is certain; see p. 34. On account of Skt. *árju-na-*, Lat. *argentum*, ἄργυρος will be based on full grade **ḫ₂erǵ-*.

ἀτύζομαι (ἀτυχθεῖς) 'to be distraught from fear' could be cognate with Hitt. *ḫatugi-* 'terrible, dreadful'. However, a structure **ḫ₂et-ug-* is strange; one would expect **ḫ₂tug-*.

Ablaut may give an indication here in various ways. A first group consists of the following words.

αὐδῆ as against Skt. *vádati* 'to speak' could go back to **au-d-* : **u-ed-*, but αἰίδω, which probably must be analysed as **ḫ₂u-ei-d-* (see p. 56 f.), shows the presence of a laryngeal, so that **ḫ₂u-ed-* and **ḫ₂eu-d-* (αὐδ-ῆ) are self-evident. Cf. p. 89.

αὐλή, Arm. *aw-t'* 'place to spend the night', belongs with ἄεσα (**ḫ₂u-es-*) and ἰαῶ (**ḫ₂i-ḫ₂eu-*), so that here **ḫ₂eu-* must have been the basis.

αὐξω. Lat. *augeo* etc. beside Skt. *vakṣáyati* is based on **h₂eu-g-/h₂u-eg-*, in view of the prothetic vowel in ἀ(φ)έξω. See further p. 89.

Another ablaut indication is the occurrence of forms without vowel at the beginning of the word in other languages. This is therefore the same principle as that of the preceding group, only here the Greek form with prothetic vowel cannot be distinguished from that with old full grade.

ἀπό. Skt. *ápa*, Lat. *ab*, Goth. *af* etc. as against **pō-* in Av. *pa-*, Lith. *pa-*, OPr. *pa-po-*, OCS *po-*, Alb. *pa-*, Lat. *po-(situs)*, OS *fan*, point to **h₂épo* (for the accent Skt. *ápa*, Goth. *af*): **h₂pó*. Both forms would have given ἀπό in Greek, so that it is difficult to make out which form is the basis here, if the two have not coincided.

αἰετός. If it is cognate with Lat. *avis* and Ved. *vīh* (gen. *véhi*) 'bird', then the existence side by side of the last two forms points to an original declension **h₂éyi-s*, gen. **h₂u-éi-s*; Kuiper, *Notes*, pp. 61 f. As W. *hwyad* seems to come from **aiētos*, **h₂eu-* is probably the basis of αἰετός. Cf. Arm. *hav* 'bird'.

Another form of ablaut which is of importance here is the interchange *a/o*. Anyone who is not prepared to accept its existence in this form in PIE can explain this interchange as **h₂e-/h₂o-*. If this is correct, it emerges from these cases that *h₂o* became *o-*, not *a-*. Cf. the problem of the development of *oh₂*, discussed on p. 166 f.

With the stem ἀγκ- (Frisk s.v.) there may belong ὄγκος 'barb of an arrow'.

With ἄκρος ἄκρις ('hill-top, mountain-peak' Od.), Skt. *asri-* 'corner, sharp point', OLith. *aštras* 'sharp' etc. there probably belong ὄκρις 'jagged point or prominence', Lat. *ocris*, Umbr. *ukar*, gen. *ocrer* 'arx, mons' (cf. ἀκρόπολις) as **h₂ek-/h₂ok-*.

For ἄγω the laryngeal is demonstrated by Lat. *ago* : *gero*, which is explained as **h₂eg- : h₂g-es-* (cf. αὐλή : ἄεσα, *vásati* from **h₂eu- : h₂u-es-*). With ἄγω there perhaps belongs ὄγμος 'furrow, swathe, strip of cultivated land' (i.e. **h₂og-*). Lejeune, *Traité*, p. 175 n. 1, concludes on the strength of ἄγός < **h₂ogós* the development **h₂o- > a-*. It is clear that in that case an interchange *a/o* becomes inexplicable; ἄγός may be analogic.

αἰεῖ etc. is based on **aiu-*. However, Skt. *áyu* 'lifetime' presupposes **oiu-*, a form that is perhaps also found in Gr. οὐ (see p. 105). PIE **h₂oi-u-/h₂ei-u-* (before vowel **h₂eiu-* etc.). Cf. Kuiper, *Notes*, p. 31 f.

Of a similar nature is the question of a PIE ablaut *ai/i*. This question too ultimately amounts to the problem of PIE *a*, which is dealt with below. As *h₂ei-/h₂i-* the supposed ablaut *ai-/i-* fits entirely into the well-known pattern.

αἶξ 'goat', Arm. *ayc* 'idem' is considered cognate with Av. *īzaēna-* 'of leather'.

αἶχμή, Myc. *aikasama* (OPr. *aysmis* 'roasting spit') is connected as **aik-s-mā* with Cypr. ἱκαμένος and ἱκτέα ἀκόντιον.

αἶσα (αἰτία) may very well be cognate with ἴσασθαι κληροῦσθαι. Λέσβιοι Hsch. and ἴσσης, which some have tried to read for ἴσης in ι 42 = 549; yet one can easily supplement δαιτός, cf. the formula δαιτὸς εἴσης, p. 65 f. One could also consider deriving οἶτος 'fate, doom' from the same root (**h₂eit-/h₂oit-/h₂it-*).

With αἶθω belong ἱθαρός and ἱθαίνεσθαι· θερμαίνεσθαι Hsch. The root form **idh-* is also found in Skt. *idhmá-* and *inddhé* 'he lights' (< **h₂i-n-dh-toi*).

Unexpected *a* is encountered in the root of *s*-stems, where *e*-vocalism is normal (cf. Schwyzler, p. 511 f.).

For instance ἄχος, Goth. *agis*; **h₂egh-os*.

In the same way also ἄκος, ἄγος (Skt. *āgas-* does not belong with this).

Another case is formed by the disyllabic roots, where *e*-vocalism is expected in the aorist.

ἄρῥσαι therefore points to **h₂erh₁-*; cf. p. 235.

ἀλέσαι points to **h₂elh₁-*;

ἀροσαι points to **h₂erh₃-*. Here the Attic reduplication of ἀρηρομένη may give further confirmation (p. 119), as also Hitt. *har-aš-zi* 'he harrows', if cognate.

An indication of laryngeal is perhaps the reduplication with vowel *i* of roots that begin with vowel in Greek. For a 'reduplication' type *i-VC* does not seem probable. In two cases this explanation finds support elsewhere. For ἰαύω the prothetic vowel of ἄεσα beside Hitt. *huiš-*, the ablaut ἄεσ-, Skt. *vas-* : **au-* (see p. 89) and the fact that **au-* begins with *a* (*infra*) point to laryngeal, so that ἰαυ- will go back to **h₂i-h₂eu-*. For ἰάπτω not only the *a* of the root **ak^u-*,⁵⁶ but also *ἵπτομαι points to laryngeal: **h₂i-h₂ak^u-* as against **h₂i-h₂ek^u-*. Such forms also occur side by side in Indian, *iyarti* : *īrte* (PIE **h₃i-h₃er-* : *h₃i-h₃r-*). In this way ἰάλλω may be based on **h₂i-h₂l̥-iō*, if not connected with ἄλλομαι, as stated in Leumann, *Hom. W.*, p. 80 n. 45, and thus from **si-s_{l̥}-iō*. In this way ἱχνάω will be based on **hi-hgh-*, but as the *ā* of ἄχην points to **eh₂gh-*, one will have to start from **hi-hh₂gh-* from the stem **heh₂gh-*; see p. 168. Skt. *īkṣate* 'sees' is of the type *ἵπτομαι. Cognate with this is the group ὀπιπεύω, which must have been derived from a stem ὀπιπ- (see Frisk s.v.). Attic reduplication (**h₃k^ui-h₃k^u-*) is improbable with a monosyllabic stem (for ὀπωπα see p. 121),⁵⁷ while the Indian form does not point to this either (*īkṣate* < **h₃i-h₃k^u-s-*); I do not know of any case of Attic reduplication with *i* as vowel. The comparison with Skt. *śvitīcī* 'whitish' < **k^uiti-h₃k^u-ih₂*, *pratic-* < **proti-h₃k^u-* and perhaps also ἐνίπῃ < **eni-h₃k^u-* (but see footnote 59)⁵⁸ points here to **opi-h₃k^u-*. Ablaut with ὀπωπῃ is impossible, since an interchange ω/ι is unknown (of course we are not concerned here with a root with 'long diphthong' of the type **pōi-/pī-*). For ὀπωπῃ, of which the formation is unclear to me, see p. 125.⁵⁹

⁵⁶ I am following here the interpretation to be found in Kuiper, *Glotta*, 21 (1933), 282ff. If Heubeck's interpretation (*IF*, 68 (1963), 13-21) of Myc. *a₃kipata* 'goatherd' as 'aig-iptas' is correct, the root would not have a labio-velar (for then the Mycenaean form would have been **a₃kīqata*).

⁵⁷ An entirely different explanation is given by Winter, *Lg*, 26 (1950), 532: **h₃ek^ui-h₃k^u-*, comparing Skt. *bharibhrati/bharibharti*. However, Greek does not have another single case of such a reduplication; Winter's parallels μελίβδεσθαι < **mel-i-mł-*, μέδιμνος < **med-i-md-* and μέριμνα < **mer-i-mr-* are, of course, unreliable. (For μέδιμνος the form μεδιμνος (Gortyn.) points in my opinion to non-IE origin; cf. for instance κύ(ρ)-αμος : κύμ-ηχα, Kuiper, *Μνήμης χάριν*, p. 215.)

⁵⁸ For the structure of this cf. ἐνι-σπ-εῖν, OIr. *insce* < **en(i)-sk^u-iā*.

⁵⁹ Also difficult are the aorists ἐνένιπε ἡνίπαπε, which must perhaps be regarded in connection with

With this reduplication one can compare Lat. *emi*, if Benveniste's analysis (*Arch. Ling.* 1 (1949) 16 ff.) $*h_1e-h_1m-i$ is correct. This structure is of course possible, cf. $*de-dh_3- > de-d-i$. However, Benveniste's explanation tacitly assumes that every PIE root began with consonant, which has not been proved (see p. 90 ff.). Moreover, if a certain root really did have a laryngeal, this does not necessarily mean that where this explanation is possible it is also correct. Benveniste himself already points out that $*h_2e-h_2g-$ cannot explain Lat. *egi*, though it might perhaps be the basic form of OIcel. *ók* ($< *āga$); this does not demonstrate that this is in fact the case. Benveniste's assumption would therefore have to be worked out further.

b. H_3

The possibilities of demonstrating h_3 in this position are fewer, since for instance the ablaut *oi/i* (such as οἷχομαι: Arm. *iġanem* 'to come down') proves nothing here about the presence of a laryngeal (cf. p. 92). Further, *o* can often be interpreted as ablaut form of *e*, so that the absence of forms with *e* can rarely be taken as proof. Nevertheless there are a number of clear cases.

With support in Hittite:

ὄστέον, Lat. *os*, Hitt. *ḫa-aš-ta-(a)-i* [*ḫaštai*].

ὄϊς, Arg. ὄφις, Lat. *ovis*, Luw. *ḫawi-*, Hitt. *ḫawa-*; cf. Arm. *hoviv* 'shepherd' if from $*oui-pā-$.

ὄρνις, Hitt. *ḫaraš-* 'eagle' (for the meaning cf. αἰετός 'eagle': Lat. *avis* etc. 'bird'). A difficulty which, however, also occurs elsewhere (e.g. with ὄρνυμι etc.), is presented here by the forms with *er-*, Lith. *erēlis* (beside *arēlis*, OCS *orlѣ*), Latv. *ērglis* (OPr. $*arelis$, handed down as *arelie*), W. *eryr* OIr. *ilar* $< *eriro$ (Pedersen, *VKG*, I, p. 491).

the Indian forms; cf. Schwyzler, p. 648. Of the Greek forms, ἐρύκακον seems to have been formed on the example of ἡνίπαπε. Chantraine, *Gr. Hom.*, p. 398 (the present formative κ repeated; the interchange $\bar{\upsilon}/\bar{\upsilon}$, of which the $\bar{\upsilon}$ may be due to the length of the ι of ἡνίπαπε as well as to metrical lengthening). Ἐνένιπε seems a more recent form to replace ἡνίπαπε, of which the structure had become unclear; compare ἐκάθισα for καθίσα etc. The form ἡνίπαπε could be based on $*eni-h_3k''-h_3k''-$, but from this one would expect $*ἡνίποπε$. Perhaps for that reason the connection with ἰάπτω $*i̯ptoμαι$ is to be preferred ($*eni-h_2k''-h_2k''-$). Total reduplication is known in the aorist (ἀπαρεῖν ἀπαρεῖν etc.) and for the preverb and the zero grade cf. ἐνι-σπ-εῖν. If this explanation is correct, we are concerned here with 'inner reduplication' in appearance only; as far as I am aware, such a process is foreign to the IE languages; cf. the problem of infixation in the nasal presents. (The Indian form *arpipat* (from *arpáyati*) could be analogic, like ἐρύκακον; according to a reduplicated root $-ph-ph-e/o-$ $>$ Ind. $-pīpa-$?).

The form ὀνίνημι cannot be based on Attic reduplication either, on account of the short ι ; $*h_3ni-h_3neh_2-mi$ would have given long ι . Cowgill's explanation, p. 153, from $*ni-neh_2-$ with "later accretion of prothetic vowel", is improbable, since it postulates a prothetic vowel in the strict sense, and fails to appreciate the fact that all other forms point to a stem ὀνῦ-. The form suggests a nasal present with the then expected structure $*h_3n-n-eh_2-mi$, which would, however, have given $*ὀννημι$; a nasal present of a root ending in n (h_3en-) is, moreover, improbable, cf. p. 236. It therefore seems to be a Greek formation, of which the example is not clear, however. Compare a form like ὀργινύομαι (as against Skt. $\bar{r}-\bar{n}-jāti$, which points to original $*h_3r-n-e\bar{g}-mi$), where the ι also cannot go back to a PIE formation.

ὄζος, Arm. *ost*, can hardly be separated from Hitt. *ḫa-aš-du-(e)ir* [*ḫašdyeir*] 'twigs, branches' (not in Frisk; for his view see p. 24).

ὀρφανός, Arm. *orb*, Lat. *orbis*, if Hitt. *ḫarp-zi* 'to separate' is cognate with it.

In this case ablaut gives fewer indications. Interchange *oi/i* says nothing, and there is nothing that corresponds to *a/o*. The following may be stated.

ὄναρ. The form ὄνειρος (Arm. *anurj* < **ḫ₃nōr-īo-*) presupposes **ḫ₃ner-īo-*. As -αρ goes back to -r in ὄναρ, a full grade of the root is probable here, **ḫ₃enr*. This is also suggested by Albanian, Geg. *ândërr*, of which the *d* will have developed in the group -nr- and the first vowel must go back to full grade, since Albanian does not have any 'prothetic vowel', i.e. does not vocalize a consonantal laryngeal as initial phoneme; see pp. 19f. and 46.

ὀμφαλός. Here we have **ombh-* beside **nebh-*. One need only conclude laryngeal here if it is desired to explain the absence of **embh-* (i.e. possibly **ḫ₃en-bh-* : **ḫ₃n-ebh-*). See p. 92.

A quite different case is formed by the presumed development *ḫ₃ī-* > ζ-.

οἶφω: Skt. *yábhati* may be **oi-bh-* : *ī-ebh-*. Ζέφυρος would demonstrate that **ḫ₃eibh-* : *ḫ₃īebh-* was the starting-point here if this connection is correct; see p. 97f.

Mention should be made here of two cases where Indian points to laryngeal.

ὀπ-, Skt. *īkṣate* < **ḫ₃i-ḫ₃k-*; for ὀπιπέω see p. 129.

ὀρ-, Skt. *īyarti* : *īrte* from **ḫ₃i-ḫ₃er-* : *ḫ₃i-ḫ₃r-*.

In the aorist of disyllabic roots *o* is unexpected:

ὀμόςαι < **ḫ₃emḫ₃-*. Cf. ὀμώμοκα, p. 119.

ὀλέσαι < **ḫ₃elḫ₁-*. Cf. ὀλωλα, p. 121.

With the *s*-stems one finds *o* instead of *e* in:

ὀρος, which is explained as **ḫ₃er-os*. Cf. ὀρ- *supra*.

In some other words too the occurrence of *o* only is striking.

ὄζω, Lat. *odor*, Arm. *hot* 'smell, odour' (pres. *hototim*); Lith. *uodžiu* with long *o*. However, these words point to an old athematic present that might have had *o*-vocalism.⁶⁰

c. *H₁*

It is even more difficult to demonstrate *h₁*. Ablaut *ei/i* and *e/o* is of course not important here. Nor can the presence of *e* where other vocalism would be expected ever be explained by laryngeal (since *h₁o* became *o*).

ἐνεγκεῖν. If this form goes back to **en-enk-*, we have here a case of *h₁e-* (**ḫ₁en-h₁enk-*), for *h₁* is demonstrated here among other things by ἐνήνοχα, p. 118; cf.

⁶⁰ That the athematic present could have *o*-vocalism has been demonstrated by Meillet, *MSL*, 19 (1916), 181-92. The theory was elaborated for Slavic by Adriana Buning, *Ath. Conj.*, in particular pp. 28ff., 40ff. and 58f. A recent article is that by Hiersche, *IF* 68 (1963) 149-59 (who does not seem to know Buning). His attempt at semantic determination, even if justified in principle, seems to me premature with such little material.

pp. 45, 92, 94. However, the form can also be explained otherwise; see p. 123 n. 54. If ὄγκος 'bulk, size, mass' belongs with this, as is probable, then that is a case of $\hbar_1 o- > o-$.

ἐνθελν. If ἐνήνοθα (p. 118 f.) belongs with ἐνθεῖν, this form may go back to $*\hbar_1 endh-$. However, if ἐνθεῖν is an old thematic aorist, one would expect zero grade (cf. p. 224 ff.). For $*\hbar_1 \eta dh- > \hbar_1 \eta-$ see below.

ἐλάω. If the Attic reduplication of ἐλήλαμαι is old and is based on $*\hbar_1 le\hbar_1 l\hbar_2-$, ἐλάσαι will have had full grade $*\hbar_1 el\hbar_2-$.

ἐρέτης. Skt. *ari-tár-* as against Lat. *rēmus* points to $*\hbar_1 er\hbar_1-$: $\hbar_1 re\hbar_1-$.

ἔδω. For ἔδω a laryngeal could be evident only from νῆστις, but see p. 110.

2. HRC-

A special problem is formed by the group HRC-. For here the sonant would have vocalic function, of which r and l developed elsewhere into vowel + consonant (or consonant + vowel), while η and ν became a vowel (α). The question arises whether the laryngeal affected this development.

An example of this is ἀργός discussed elsewhere (p. 34), which must have developed from $*\hbar_2 r\hbar_2 \acute{g}r\acute{o}-$. It cannot be derived from this case whether the laryngeal exerted influence on the timbre of the vowel that arose (in Aeolic one would expect ὄρ- from $\hbar_2 r-$ instead of ἄρ-, but I know no case of a development of this kind). What is important is the development to VC (as at the beginning of the word without preceding laryngeal); for a development $\hbar_2 rC- > \acute{a}r\alpha C-$ was conceivable. This development also emerges from ἀλκ-ή, which goes back to $*\hbar_2 l\hbar_2 k-$ (p. 89). The same is true of $*\acute{a}rp\eta\iota\acute{\alpha}s < *\hbar_2 rpusi\acute{e}\hbar_2 s$, as against the full grade ἀρεπυια (p. 35). Perhaps mention may also be made here of ἀνδρός, which must go back to $*\hbar_2 \eta r-\acute{o}s$; here allowance must of course be made for the other forms of the paradigm, but $*\hbar_2 n\acute{e}r\eta\eta > \acute{a}n\acute{e}p\alpha$ would have more probably supported the possible development $*\acute{a}n\alpha\rho\acute{o}s$. One could even expect $*\hbar_2 \eta r\acute{o}s > *(\hbar)\alpha\rho\acute{o}s$ here; this form would of course have been replaced, but then by $*\acute{a}n\epsilon\rho\acute{o}s$ (cf. ἀνέρος and Skt. *náras*). It therefore seems that ἀνδρός must go back direct to an old form.

For the question of colouring, the gen. sing. $*\acute{o}rp\eta\iota\acute{\alpha}s < *\hbar_3 r\hbar_3 gusi\acute{e}\hbar_2 s$ might be important; see p. 37. Here, therefore, the \hbar_3 would have coloured the vowel to α , but it should be borne in mind that the α here may have been introduced from the other forms, e.g. nom. sing. $*\hbar_3 r\acute{o}gusi\hbar_2 > \acute{o}p\acute{o}r\gamma\iota\alpha$, with 'prothetic vowel' $\acute{o} < \hbar_3-$. The same applies to ὄρνυμι $< *\hbar_3 r-n-eu-mi$, where the α may for instance have been taken over from the aorist stem ὄρ- $< *\hbar_3 er-$ (ὄρσε). One may further envisage here $*\acute{e}n\phi\alpha$, which could be based on $*\hbar_1 \eta \eta\eta$ (p. 46) and the aorist ἐνθεῖν, for which $*\hbar_1 \eta dh-$ is probable.

On theoretical grounds colouring is to be expected, in my opinion. As we shall see, in for instance $*r\hbar_3 C- > *ro\hbar C > p\omega C$ and $*r\hbar_3 V > *or\hbar V > \acute{o}pV$ the timbre of the

vowel was determined by the laryngeal (pp. 210-26), so that this is also probable here. Just as in ηh the vowel develops after the nasal (while otherwise η itself became a vowel), with $h\eta$ a development to VC is probable.

N.B. 1. In Latin one would expect $h\eta$ - > *ar*- instead of *or*-. If this is correct, then $\ddot{u}\rho\kappa\tau\omicron\varsigma$ — *ursus* had no laryngeal; it is therefore uncertain that Hitt. *hartagga* belongs here.

N.B. 2. I know of no case of the group $-H\ddot{u}C$ - in the middle of the word.

3. PIE *a*

It has been asked whether PIE had a phoneme *a* beside *e* and *o*, the first to do so being De Saussure (*Mémoire*, in particular p. 127). Brugmann has no doubt about PIE *a*. He gives correspondences for *a* (*Grundr.*, I², p. 158 ff.), *ai* (p. 178 ff.), *au* (p. 192 ff.) and posits an ablaut *a/o* and *ai/i*, *au/u* (p. 485 ff.); this point of view may also be found in *KVG*, pp. 77 and 146 f.

However, it proves that the occurrence of *a* is very limited. Meillet gives a short survey of it (*Introd.*⁸, pp. 99, 166), which may be summarized as follows. One finds PIE *a*:

- (1) in a small group of words with a special semantic range;
- (2) as the first phoneme of the word;
- (3) in a few endings.

The last group comprises

- (1) a. the middle ending 3 sg. *-tai*;
b. the middle ending 1 sg. *-ai*;
- (2) the ending 1 sg. perf. *-a*.

Of these, the first (1a) ceases to apply, since Myc. *euketo* ('*eukhetoi*') confirms Ruiperez' theory (*Emerita* 20 (1952) 8-32) that this ending was originally *-toi*.

As regards the last one (2), Kuryłowicz (*Symb. Rozw.*) has demonstrated that it arose from $-h_2e$; cf. Hitt. $-ha$, Lyc. $-χα$. For in this way the opposition Skt. 1 sg. *cakara*: 3 sg. *cakāra* can be understood; see Introduction, p. 10. Here too one is therefore not concerned with PIE *a*.

The middle ending 1 sg. seems to have been *-ai* (Skt. *-e*, Gr. $-(\mu)\alpha\iota$, under the influence of which *-soi*, *-toi* (except in Arcadian) became $-\sigma\alpha\iota$, $-\tau\alpha\iota$). This can be traced back to $-h_2ei$, as Kuryłowicz proposed in the above-mentioned article, identifying the nucleus with the perfect ending $-h_2e$.⁶¹ There is no reason to start from $-h_2oi$, as Ruijgh does (*L'élém. ach.*, p. 14); this is evidently based on the forms

⁶¹ He believed that this could be further found in 1 sg. of the thematic presents $-\bar{o} < -o-h_2$, an idea which he later abandoned, since he then assumed that oh_2 became \bar{a} .

(-soi) -toi. However, this fails to appreciate the fact that the ending (1 sg.) with *h* and that with *s* and *t* (2 and 3 sg.) belong to two series differing from of old, which for instance have still been preserved separately in Hittite (-*hi*, -*ti*, -*i* as against -*mi*, -*si*, -*ti*). Moreover, this would postulate a development $h_2o > a$. It is very difficult to furnish proof of Kuryłowicz' interpretation, and discussion of it here would take us too far; I may refer to Kuryłowicz, *BSL* 33 (1932) 1-4, and *Apophonie*, p. 41 f.; Stang, *NTS* 6 (1932) 29-39; Safarewicz, *Bull. internat. de l'Acad. Polon. d. Sciences et d. Lettres* (Cracow, 1938), pp. 149-56.

Group 3 therefore disappears entirely, i.e. *a* does not occur in a single ending.

Hirt (*Idg. Gr.*, 2, p. 24), rightly points to the importance of the ablaut phenomena in this context. He finds an interchange *ai/i*, *au/u*, *ar/r* etc., and concludes that *a* was a "fundamental vowel", just like *e*. If his material is considered, it is seen that here too (naturally) a large amount is confined to the beginning of the word (type αἶθω : ἰθαρός), and some of the etymologies are outdated (such as the explanation of λαγχάνω : λαχεῖν from **langh-/lŋgh-*). Only a very small portion remains (e.g. δαίομαι : Skt. *ditl-* 'the dividing'; *infra*). Hirt also assumes an interchange *a/zero* (p. 27; ἀπό : **pō-*, *ago* : *gero*), parallel *e/zero*.

Recently the problem has been dealt with in more detail by Kuryłowicz, *Apophonie*, pp. 174-195, who has assembled the material.

Kuryłowicz disclaims an ablaut *a/o*. He explains the interchange *ai/oi* by assuming that *oi* has been based on *i*, the zero grade of *ai*, after the connection between *ai* and *i* was broken (pp. 185, 187). This seems inadequate to me. For instance, it may be asked why *ei* was not formed on *i*, but only *oi*. In part this idea is a necessary consequence of the fact that he assumes that h_2o became *a* and oh_2 *ā*. For as a result the possible explanation $h_2ei > ai$, $h_2oi > oi$ ceases to apply. Consequently for him the type ἄκρις : ὄκρις (in general, therefore, *a/o*) remains unexplained (p. 186).

Kuryłowicz gives a list of words (in Indo-Iranian and the European languages) beginning with *a* and arrives at a total of 25. It may of course be asked whether this list is exhaustive, but an examination of this lies beyond the scope of this book. As regards the words with *a* in the middle of the word, he rightly makes a distinction between those occurring in both the European languages and Indo-Iranian, and those that are confined to the European group. Of course the possibility can in no way be excluded that a number are not known in Indo-Iranian only by chance or were displaced from this linguistic group by other words. The latter group comprises 22 words, which relate to fauna (κάπρος, ταῦρος, *cattus*), flora (*salix*), husbandry (*faba*, *far*, *napurae*), nature of the soil, etc. (*lacus*, *saxum*, ἄλς⁶²), expressive words (*carinare*, κανός· κακός, λαιός, *faber* (OCS *dobrō*)), two more 'personal' (*barba*, δάκρυ)⁶³ and a few others (κάμπω, *mālus* etc.). As Meillet (*op. cit.*, p. 167) and Kuryłowicz (p. 194) remark, these are "mots isolés", "termes concrets et immotivés", i.e. words that

⁶² However, this word is also found in Armenian (*al(t)*) and Tocharian (B *sālyiye*).

⁶³ But in many respects this word is an anomaly; see for instance Frisk s.v.

cannot be connected with other IE words (i.e. that have no IE etymology as etymon, as for instance ἔρετμόν, *remus*—ἔρέσαι, ποιμήν—πῶν, ἄνεμος—*ániti*), “et, par là même, suspects d’être des emprunts”. Nor does one find any trace of ablaut here. The idea that a large number of these words have been borrowed from a European substratum language becomes all the more probable when it is borne in mind that in the names of European rivers studied by Krahe the *a* is by far the most common vowel. See merely the list in *Sprache und Vorzeit*, p. 58. The conclusion is therefore rather that we are concerned here with non-IE words. See for instance the criticism given by Scherer, *Kratylos* 1 (1956) 8 f.

Of the words with *a* not at the beginning of the word occurring in both the European languages and Indo-Iranian, Kurylowicz does not include onomatopoeias, expressive words (καχάζω, γαγγαίνω, βάρβαρος, λαλέω) and words from children’s language (τάτα, ἄττα, μάμμα) in his list (p. 190 ff.). There then remain some thirty (of which various etymologies are disputable). In general this list displays the same picture as the preceding one: no words occur in it that belong to the “vocabulaire fondamental”, no prepositions, pronouns, numerals, names of parts of the body; there is, however, one name for a relative, **daiyer-* (δᾱήρ). For the “mots d’infirmité” (like *caecus*), see Haar, *Lingua Posnaniensis* 3 (1951) 68 ff. with lit. This is all the more evident when these words are compared with those of which *a* is the first phoneme, including ἀπό ἀντί αὔ (ἀνά?) and widely ramified roots like **angh-* (ἄγχω), **ank-* (ἄγκών), **ag-* (ἄγω), **anə-* (ἄνεμος), **ar-* (ἀραρεῖν), **arg-* (ἄργυρος), **ak-* (ἄκρος), **aug-* (αὔξω). A further point is the small number in comparison with *a* as initial phoneme, 30 compared to 25, while it might be expected that the first figure would be a multiple of the second. Besides **daiyer- *saus-* is the most convincing case, because it displays ablaut, αῖος, Lith. *saĩsas*, Skt. *śũska-* ‘dry’.

Here one must bring in the results of the laryngeal theory, which so far has been used only to demonstrate that the endings stated have no PIE *a*. If it is assumed that PIE had a phoneme \hbar_2 that coloured following (and preceding) *e* to *a*, it is probable a priori that a number of cases of *a* at the beginning of the word go back to \hbar_2e . If one is not prepared to regard ablaut *ai/i* etc., *a/o* and *a/zero* as an argument for laryngeal, there still remain the cases ἀντί (Hitt. *ḫanti*, although **ḫanti* cannot yet be excluded here), αὔδῃ, αὔλῃ, αὔξω, ἀλκή, ἄχος and ἄλέσαι, ἀρέσαι, ἀρόσαι (the latter moreover with Attic reduplication). It may therefore be regarded as certain that $\hbar_2e > a$ - occurred. But in the middle of the word, too, *a* can be explained by \hbar_2 : Lat. *caedo*, Skt. *khidati* would point to **kḥ_2(e)id-*, Kurylowicz, *ibid.*, p. 189, and *Etudes*, p. 65 (**dh_2-ei-* etc.). The timbre *a* in the word may also have been caused by \hbar_2 in quite a different way. Gr. δαίωμα, Skt. *dāyate*, *dāti-*, *dití-* gives the stem forms **dai-*, *dā-*, *də-*. The root here was therefore **deḥ_2-* ($> dā-$; zero *dh_2 > Skt. di-*), with enlargement *i* **deḥ_2-i-*; the form *dai-* must have developed antecorsonantly (cf. δαίς δαιτός) from **deḥ_2iC-*. The laryngeal remains a consonant in this position of the group *eHR*, while the sonant has vocalic function (*eHR̥*); the laryngeal then falls intervocally (i.e. without lengthening; the explanation of **dai-* from **dh_2i-* is

incorrect; this form would have given *di-*, Skt. *dhi-*). This is not the place further to investigate the correctness of these explanations for the various forms; what is important is that in principle two explanations of *a* in the middle of the word are possible (i.e. *Ch₂eC-* and *Ce₂h₂RC-*).

The laryngeal theory therefore makes it probable that, at least in a number of words, *a* at the beginning of the word developed from *h₂e-*, while in the middle of the word too the timbre *a* may have been caused by *h₂*.

Summarizing, one therefore concludes that PIE *a* occurs in a number of expressive words, some from children's language, in words which look like loan words, and in the remaining cases has partly come into being through a laryngeal. Now that we have arrived at this point the question is no longer whether one may expunge the *a* as PIE phoneme on the strength of these facts, but rather whether one has the right to posit such a phoneme. For this question the following considerations are in my opinion decisive:

(1) the *a* has not the slightest morphological function in PIE; it does not occur in a single suffix or ending. (Here, for instance, one can compare the European substratum language, where the suffixes *-ar*, *-ant*, *-an*, *-am* are very frequent; this seems a better interpretation than that of Krahe, who frequently works with roots like *al(a)*, *ar(a)*, *av(a)* and sees in the suffixes IE *-ro-/rā*, *-nt-* etc..)

(2) The ablaut *a/o* is found at the beginning of the word, never in the middle. Not only is an ablaut *a/o* a new, separate assumption (beside the existence of the phoneme *a*); in addition this does not explain why it does not occur in the middle of the word. (If, on the other hand, one assumes that *a-* is based on *h₂e-*, then no new assumption is required for the ablaut, because *h₂o-* becomes *o-*.) The same applies to the interchange *ai/i* (i.e. *h₂ei-/h₂i-*) etc. and *a/zero* (*h₂e-/h₂-*; the latter not in Greek).

(3) The fact that *a* occurs at the beginning of the word just as much as in the middle, while one might expect that the latter was much more frequently the case: *a* at the beginning of the word is therefore unexpectedly frequent.

(4) The fact that the words with *a* in the middle of the word do not belong to the "vocabulaire fondamental" (unlike, for instance, those with *a* at the beginning of the word), which renders it probable that these are loan words. (Here one can adduce **dai₂er-* and **saus-* as counter-arguments. For **saus-* the explanation **sh₂-eu-s* (zero **sh₂us-* in Skt. *śuśka-*) is possible.)

(5) The fact that for various cases it can be demonstrated that the timbre *a* came into being through *h₂*.

In my opinion the conclusion is that *a* was admittedly present in the oldest phase of PIE accessible to us, but with a very minor functional load. From the fact that this sound has no morphological function in the linguistic system, one may further conclude that there was a phase during which this phoneme did not occur at all (except perhaps in special strata, such as children's language, affective language, etc.). An original ablaut *a/o*, *a/zero* or *ai/i* etc. never existed (except when *a* came into being through laryngeal). This book will proceed on these assumptions in the following.

As allophone of *e*, *a* existed in the direct vicinity of \hbar_2 . When the laryngeal disappeared this *a*-colouring was preserved in opposition to the original *e*, so that the allophone became an independent phoneme (which coincided with the *a* in a small number of loan words, words from children's language, etc.). As this *a* corresponds exactly in various European languages and is distinguished from *e* and *o*, this colouring was probably already present in the proto-language. However, the disappearance of the laryngeal at the beginning of the word cannot have taken place until the independent languages, since Hittite *h* postulates its survival.

Protests have been uttered against the picture that forms in this way of the oldest PIE, for instance by Leumann, *Kratylos* 1 (1956) 29: "Wenn sich hierbei der frühidg. Vokalbestand auf den einzigen Vokal *e* reduziert, dem eine Grosszahl von Konsonanten gegenübersteht, so wird man wohl kaum andere Parallelen finden als solche von rekonstruierten Sprachen; hier überall ist eigentlich nicht eine Grundsprache gesucht, sondern eine mathematische Ordnung von höchster Einfachheit".

The objection to the mathematical procedure is in my opinion not a fair one. At this level, where an attempt is being made to reconstruct pieces of a vanished language, a systematic approach which may seem mathematical (algebraic) is the only possible one. It may be argued that this is not reliable enough to allow of conclusions, but that is no argument for defending an opposite point of view (i.e. the existence of the phoneme *a*). There is, of course, the danger that, through the continuous elimination peculiar to historical linguistic reconstruction, an over-simplified picture results. For instance, in the field of phonetics merger of phonemes in the basic language can never be demonstrated now. However, this objection holds good for historical linguistic comparison as such. The only conclusion that may be drawn from this is in my opinion that it is not possible to establish the phonemic system of the basic language, at least for a period preceding the last phase before the division. But here we are not going further back than this last phase. In my view the procedure in no way differs from that in other fields of IE linguistic comparison.

The key point is of course the unusual picture of a language with one vowel. However, languages with a similar phonemic system are found in Caucasian. In Kabardian, for instance, A. H. Kuipers (*Phoneme and Morpheme in Kabardian*) finds 48 consonants, while he disclaims the existence of a vocalic phoneme. Ignoring the question of whether there was one or no vocalic phoneme, this is still a striking parallel of the system constructed for PIE. The bizarre aspect cannot therefore form an argument.

Incidentally, it is incorrect to speak of one vowel. The PIE phonetic system can well be compared with old Indian.

(N.B. The following scheme therefore gives a comparison of phonetic systems, not a survey of the historical development from PIE to Indian.)

PIE					SKT							
e					a							
o ¹					ā							
i/ī					e		o					
u/ū					i/y		u/v					
r/ṛ	l/ḷ		m/ṃ		n/ṇ	r/ṛ	l/ḷ ²		m	n	ī	ū
	h ₁ /ḥ ₁	h ₂ /ḥ ₂	h ₃ /ḥ ₃				h				ī ³	
		s				ś	ṣ ⁴	s				
	k	g	gh				k	kh	g	gh		ñ ⁵
	ḱ	ḡ	ḡh				c	ch	j	jh		[ñ]
	k ^u	g ^u	g ^u h				ṭ	ṭh	ḍ	ḍh		ṇ ⁵
	t	d	dh				t	th	d	dh		
	p	b	bh				p	ph	b	bh		

and four sonants). Moreover, the reduced vowel, which was an independent phoneme of PIE, has not been included.

If one considers the history of the research, one may say that the discovery of the laryngeals sealed the fate of the *a*. However, the place of the *a* and the *ə* was taken by three other phonemes that could have a vocalic function.

It thus seems probable to me that *a* is based on *h₂e-* as an initial phoneme of PIE roots. In this way *ἀρ-* (*ἀραρεῖν*), *ἀφ-* (*ἀπαφεῖν*), *ἀχ-* (*ἀκαχεῖν*) would be based on **h₂er-*, **h₂ebh-*, **h₂egh-*, *ἀγρός* (Skt. *ājra-*, Lat. *ager*, Goth. *akrs*, Arm. *art*) on **h₂eġro-*, *ἄξων* (Skt. *ákṣa-*, Lat. *axis*, Lith. *ašis*, Goth. *ahsa*) on **h₂ek-s-*, *ἄνεμος* (Lat. *animus*, Skt. *ániti*) on **h₂enĥ₁mos*. However, there is no point in adding to the number of examples of this, since no further arguments can be adduced.

4. PIE NON-APOPHONIC *o*

On the strength of the fact that certain roots with *o* never display a form with *e*, even where *e*-vocalism is normal in the *e/o* series, it has been postulated that PIE had a separate *o* that did not interchange with *e*. This is done for instance by Brugmann, *Grundr.*, I², p. 153 (with the symbol *ā*), where he states as examples *ῥσσε πόσις ῥις ὄνειρος ὄξυη ὄζω ὄμνυμι ὄκρις*. Hirt, *Idg. Gr.*, 2 p. 29 f., adds *οἰδέω ποιμήν οἰνή οἶος οὖς*. In *KVG*, p. 74, Brugmann withdraws this idea: “Die Ansicht dass es im Uridg. zwei qualitativ verschiedene *o*-Vokale gegeben habe, steht auf schwachen Füßen”. For one can argue that in these cases the *e*-phase is not known by chance or that, for the forms where one would expect *e*, the *o*-vocalism of certain roots has been extended secondarily. This objection is in general irrefutable and will certainly be correct in a number of cases.

The laryngeal theory can clarify matters here. For the objection stated does not seem enough to explain all cases. And moreover, if one considers the examples, it is striking that most of them (11 out of the 13 mentioned above) have *o* at the beginning of the word, which recalls the situation with PIE *a*, as Martinet remarked in *Word* 9 (1953) 254 (where he also remarks that an interchange *e/o* may have been secondarily introduced in roots with originally non-apophonic *o*). For a few of the cases given (*ῥις*, *ὄκρις*, *ὄπ-*, *ὄμο-* and further for *ὄστέον ὄρνις* and *ὄρ-*) laryngeal could be demonstrated; *ὄνειρος* has a prothetic vowel, see p. 46. Together with what was said about PIE *a*, this leads to the conclusion that in many cases PIE *o-* came into being from *h₃e-*. Here both *h₃e-* and *h₃o-* became *o-* (probably, as with *a*, both coincided in PIE *h₃o-*, after which the laryngeal disappeared in the individual languages, in view of Hitt. *ḫastai* etc.). The term ‘non-apophonic’ is therefore correct for this group in as much as the *o* < *h₃e* could not interchange with *e*, but the term is meaningless.

The form *ποιμήν* can be explained from **peh₃i-C-* > **poĥ₃iC-* > **poiC-*, but **poĥ₂i-* is perhaps more self-evident; cf. p. 168.

For *ὄκρις* – *ἄκρος* Brugmann postulated in *Grundr.*, I², p. 485, a separate ablaut *ā/a*,

which is rather improbable. As *a* was not a PIE phoneme, it is obvious to assume \hbar_2o -/ \hbar_2e - here. The same applies to $\omicron\zeta$ — Lat. *auris*, $*\hbar_2\delta us$ -/ \hbar_2eus -/ \hbar_2us - (or $*\delta\hbar_2us$ - etc.?).

Further interpretation of $\pi\acute{o}\varsigma\iota\varsigma$ is uncertain. We are concerned here with a single form, so that the absence of ablaut variants is meaningless. There is nothing to prevent us starting from $*pot$ -(*i*-).

To assume beside the ablaut-*o* and the *o* that emerged in the immediate vicinity of \hbar_3 a third (non-ablaut) *o* does not seem justifiable. The basis for the first non-ablaut *o* was weak enough in itself, and the forms adduced prove to go back largely to \hbar_3e , so that there is insufficient ground for assuming a third *o*. This seems to solve this matter as far as I am concerned.

The problem, therefore, with which we were confronted above was the disturbance of the ablaut *e/o* by the presence of a laryngeal. The situation may be sketched as follows:

without laryngeal	after laryngeal
<i>e/o</i>	$\hbar_1e/o > e/o$
	$\hbar_2e/o > a/o$
	$\hbar_3e/o > o/o$

5. ARMENIAN

Armenian presents two questions which must be touched on. The first is whether non-apophonic *o*, i.e. \hbar_3e , became *a* in Armenian. This idea was put forward by De Saussure, *Mémoire*, p. 96 f. The material was discussed by Bartholomae, *BB* 17.91-103. After critical sifting (for instance not automatically putting *amb* 'cloud' on a par with $\delta\mu\beta\rho\omicron\varsigma$) he retains ten cases. Of these, the connection *haik* 'Armenians' — $\pi\acute{o}\varsigma\iota\varsigma$ may probably be abandoned (Boisacq s.v.), that of *jaunem* 'to consecrate' with $\chi\acute{o}\alpha\nu\omicron\varsigma$ is very uncertain, that of (*y*)*esan* with $\acute{\alpha}\kappa\acute{o}\nu\eta$ is meaningless, since - $\omicron\nu\eta$ is a Greek suffix that may be secondary (forms of $\acute{\alpha}\kappa$ - also occur with suffix - $\alpha\nu$ -, $\acute{\alpha}\kappa\alpha\iota\nu\alpha$ $\acute{\alpha}\kappa\alpha\nu\omicron\varsigma$ $\acute{\alpha}\kappa\alpha\nu\theta\alpha$, which, however, seem non-IE); *arawr* — $\acute{\alpha}\rho\omicron\tau\rho\omicron\nu$ is based on $*\hbar_2er\hbar_3trom$, see p. 231; *atamn* and *anurj* have 'prothetic vowel', see pp. 55 and 46; as Bartholomae himself states, *y-areay* 'I rise up' ($\delta\rho\nu\mu\iota$) may be explained by the zero grade in pres. *yařnem*. We then still have *akn* 'eye' ($\delta\pi$ -), *ateam* 'to hate' (*odium*) and *aytnum* 'to swell' ($\omicron\delta\acute{\epsilon}\omega$), to which one could add *haçi* — $\delta\zeta\acute{\upsilon}\alpha$. Thought has been given to assuming *ai/oi* (\hbar_2ei/\hbar_2oi) in *aytumn* — $\omicron\delta\acute{\epsilon}\omega$, on the strength of the comparison with Lat. *aemidus*; *o*-vocalism may be expected for $\omicron\delta\acute{\epsilon}\omega$ itself, but the connection with *aemidus* is of course not sufficiently reliable.

However, as against these examples there are *hoviv* < $*o\mu i$ -*pā*- (?), *oskr* 'bone' ($\delta\sigma\tau\acute{\epsilon}\omicron\nu$), *ori* 'hawk' (if connected with $\delta\rho\nu\iota\varsigma$), *ost* ($\delta\zeta\omicron\varsigma$). In my opinion these show that the Armenian interchange *a/o* does not go back to PIE. The cause will have to be sought inside Armenian (cf. Meillet, *Esquisse*², p. 41).

The second question is whether the Armenian *h* at the beginning of the word represents an original laryngeal, as Austin suspected; see Winter, *Evidence*, p. 29 f., with literature. I do not believe that much value may be attached to the absence of Arm. *he-* < *h₁e-*, in view of the fact that *h₁* is very difficult to demonstrate. In my opinion a glance at the examples stated above shows that the whole idea is untenable. A recent discussion of the Armenian *h* may be found in Jerejian, *Word* 9 (1953) 146-51.

**LARYNGEAL AT THE END
OF THE WORD**

In general the difficulty in this section on laryngeal at the end of the word is that there is little material here. Whilst in the first section on laryngeal at the beginning of the word the difficulty is demonstrating the laryngeal, and in the third section — laryngeal in the middle of the word — the problem is interpretation of the confusing data (especially in Greek), the proof adduced here is necessarily austere, owing to this shortage of material. This is understandable, because we are concerned here with the cases in which the laryngeal was the last phoneme, i.e. (the last phoneme of) the ending. In the third chapter, moreover, the problem is intensified by the possibility of an explanation with the aid of analogy.

III. AFTER VOWEL

First of all we shall consider the development of laryngeal after vowel, i.e. after *e/o* (for PIE *a* see p. 133 ff.). The cases with sonant (*i, u; r* etc.) followed by laryngeal will be discussed in chapter V.

One of the starting-points of the laryngeal theory is that the long vowels of the basic language which did not arise from lengthening or contraction go back to short vowel plus laryngeal. Various long vowels at the end of the word must also be so explained, e.g. the feminines ending in *-ā* (cf. p. 170) and (Skt.) *-ī, -ū* from *-eh₂, -ih₂, -uh₂* respectively. Kuryłowicz' explanation of the ending of 1 sg. act. of the thematic presents *-ō* from *-o-h₂* may also be recalled; see p. 133 n. 61.

A phenomenon that is explained by this assumption is the rule *vocalis ante vocalem corripitur*. For if a word ending in vowel plus laryngeal stood before a word beginning with vowel, in the context the laryngeal would come to stand between vowels and would disappear, *-VH V- > -VHV- > -VV- (-eh₂ o- > ah₂o- > -ao-)*. The long vowel at the end of the word thus occurred at first only before a word that began with consonant (*-ah₂C- > -āC-*).

Kuiper has demonstrated that the Rigveda still displays traces of these sandhi phenomena (*India Antiqua*, p. 208 ff., *Shortening*, *Die Sprache* 7.16-20). It thus emerges from this that the laryngeals were preserved in this position down to the separate languages, for it is improbable that these sandhi rules were preserved for centuries (from the phase in the proto-language in which the laryngeals were thought to have disappeared here to the time when the Vedas were composed). It proved that in pause too the forms ending in short vowel occur. The origin of the long vowels is based on compensatory lengthening, as a result of which the length of the syllable was preserved, whereas on the other hand a closed syllable in pause was short. The latter shortening (for it was as such that the phenomenon was regarded in the later linguistic system, in which the forms with long vowel were generalized) is found for example in the vocative, which after all is by nature followed by a pause; cf. Kuiper, *India Antiqua*, p. 210, and *Shortening*, p. 253 n. 1: "In Sanskrit the vocative often remains unaffected by the rules of sandhi and the verb which follows a vocative at the beginning of a sentence is accented as though it were the first word". Thus in the Rigveda shortening can be demonstrated for the instr. sg. ending in *-tī*, the gerunds in *-yā, -tyā*, the neuter pl. in *-ī, -ū, (-ā)* and the nom. acc. dual in *-ī, -ū*; shortening

in the vocative is found in words ending in $-i$, $-ū$ and in the dual of the a - and i -stems (no example is known of the u -stems).

In the oldest Greek, i.e. in Homer, no trace can be found any longer of these sandhi phenomena. The more frequent form has already been generalized here, i.e. the anteconsonantal form. However, the shortening in the vocative can still be shown; it is discussed below.

The \bar{a} -stems therefore have $-\bar{a}$ from $-ah_2 < -eh_2$. Indications of the laryngeal are the form of the vocative (*infra*), the declension (p. 170) and the parallelism with the Sanskrit forms ending in $-ī$, $-ū$, which have to be explained as $-i\bar{h}_2$, $-u\bar{h}_2$.

The endings which we find for the instrumental — if we ignore here the forms with bh and m — point to a laryngeal. The endings Ved. $-\bar{a}$ (with stems ending in consonant, $-a$ and $-\bar{a}$) and $-ī$, $-ū$ (with i - and u -stems) (other forms are more recent, taken over in part from the pronominal declension, *AiGr.* 3, pp. 34-6, 90-2, 115-9, 145-8) suggest an analysis $-i\bar{h}$, $-u\bar{h}$, and $-e/o\bar{h}$ for the o -stems. This interpretation is now confirmed by the above-mentioned shortening in pause and before vowel in the Rīgveda of $-tī$, $-tyā$ and $śāmī$ (Kuiper, *Shortening*, p. 253-64). In this way the acute of Lith. $-\bar{u} < -\bar{o}$ (*vilkū* 'with the wolf') also becomes clear, indicating that no contraction has taken place here (unlike the ablative ending in $-\bar{e}d/-\bar{o}d$, see *AiGr.* 3, p. 94f.). In Greek one still finds the acute in ἀμαρτή (E 656 Σ 571 Φ162 χ 81; reading of Aristarchus, codd. -ῆ) and ἐπισχερώ Λ 668 Σ 68 Ψ 125).

The situation is more complicated with the \bar{a} -stems, where κρυφαῖ (Pi.) and the like (Schwyzer, p. 550) have circumflex, insofar as value may be attached to this, because $-\eta$, $-\omega$ also were often given circumflex. Nor is it clear whether the ending Skt. $-\bar{a}$ is original with the consonant stems. If this is the case, both questions can be solved (for in origin \bar{a} -stems are also consonant stems, $-\bar{a} < -eh_2$) by assuming an ending $-eh$, beside $-h$ with the stems ending in vowel; for the \bar{a} -stems this gives $-\bar{e}h_2-eh > -\bar{a}h_2ah > -\bar{a}ah > -\bar{a}(h)$. However, in that case one would expect traces of hiatus ($-aa$) in Vedic, of which there is no evidence.

That Ved. $-\bar{a}$ of the o -stems stands for IE $-\bar{e}$ emerges from forms like Skt. *paścā*, Av. *pascā* 'behind' $< *poskē$ (where the palatal points to \bar{e}) as against the abl. Av. *paskāt* $< *poskōd$ and from the comparison with the other languages (*AiGr.* 3, p. 91f., Schwyzer, p. 548). The long \bar{e} is found in Goth. *þē* 'all the more', *hwē* 'with which' (OS *hwō* with \bar{o}) and perhaps Latin adverbs ending in $-\bar{e}$, *certē*, etc. From elsewhere we know only $-\bar{o}$, Lith. *vilkū*, OHG *wolfu*. That the $-\eta$ of some Greek forms does in fact represent \bar{e} is demonstrated by the Doric forms. Laconian $\pi\acute{\epsilon}(\pi o\kappa a)$ cannot be $*k^neh_2\bar{h}$ (with the second h as instrumental ending), because the η instead of the \bar{a} then to be expected could not be explained. It is evident that the opposition $\eta : \bar{a}$ here has been sharply preserved from the context of Lac. $\pi\acute{\epsilon}\pi o\kappa a$, *IG* IV 1.213, 3-5, (Buck *Gr. Diall.*, p. 268), Sparta V B.C.: $\nu\acute{\iota}\kappa\acute{\alpha}\eta\alpha\varsigma \mid \tau\alpha\upsilon\tau\acute{\alpha} \hbar\tau' \omicron\upsilon\delta\acute{\epsilon}\varsigma \mid \pi\acute{\epsilon}\pi o\kappa a \tau\bar{o}\nu \nu\bar{u}\nu$, 'having won victories in such a manner as never anyone of those now living'. Here, then, $\tau\alpha\upsilon\tau\acute{\alpha}$ and $\hbar\tau'$ are likewise instrumental forms, of an \bar{a} -stem (*supra*). Cf. further for instance El. $\tau\alpha\upsilon\tau\acute{\epsilon}$, Cret. $\tau\eta$ 'where' (the π in $\pi\acute{\epsilon}\pi o\kappa a$ must therefore be analogic, cf. $\hbar\omicron\pi\acute{\epsilon}$, where the π was perhaps caused by the preceding o). For the

corresponding forms with -ω (e.g. πώποτε), compare ὅς ὅδε with Myc. *jo-* (*o-*; for instance *jodososi* 'jō dōsonsi') and see Schwyzer, p. 550.

This interchange -ē/-ō can only be explained by -*e*-*h*₁/-*o*-*h*₁. It therefore follows from this that the instrumental ending was *h*₁.

The shortening in the Rigveda shows that the ending of the nom. voc. acc. dual of *o-*, *i-* and *u-* stems was a laryngeal too. The acute of Lith. -ū also suggests this. It is difficult further to determine this laryngeal. The consonant stems point to an ending -*e*, the *ā*-stems to an -*i*, contracted to -*ai* < -*e**h*₂-*i*, and the neuters to -*i*. These cannot be linked with laryngeal and therefore do not give any support here. The occurrence of -ō only (Gr. -ω, Lith. -ū; Skt. -ā, OCS -a) suggests *h*₃, but if the stem vowel was *o*, each of the three laryngeals is possible. However, δύω (ἄμφω) and ὀκτώ, which probably have a dual ending, would confirm the *h*₃. One could then regard δύο as shortening before vowel and in pause, but this cannot be demonstrated (one would expect the same interchange with ὀκτώ, but this perhaps is less frequent). Then there are the forms with -*u*, **duōu*, Skt. *dvāu* and Myc. *duwoupi* (not **duoijunphi* with *Docs.* No. 148, since -φ₁ was used only after the stem, Chantraine, *Gr. Hom.*, pp. 234-41 and 499-51). This question therefore remains open.

In **prō* too a *h*₃ cannot be further demonstrated. Martinet's theory, *Word* 9 (1953) 253-67 (*e**h*₃*C* > *ōC* as against *e**h*₃*V* > *āuV*) is unacceptable.

a. The Vocative Ending in -ā

Besides the vocatives of the feminines ending in -*i* and -*ū* demonstrated in Vedic one would expect an ending -*ā* (< -*a**h*₂) of the *ā*-stems. However, there is no evidence at all of this in Indian. It is true that forms are found like *amba* which, however, corresponding to Greek ἀμμή, ἄττα, are entirely outside the ordinary declension system as words from children's language. Moreover, it is supposed that *ambā akkā attā* ('mother') were borrowed from a Dravidian language; see Mayrhofer s.vv. The vocative ending in Indo-Iranian is -*ai*, which has not yet been adequately explained.⁶⁵

However, the expected ending -*ā* in the vocative is found in other languages, including Greek, and further in OCS -*o* (*ženo*, nom. sg. *žena*) and Umbr. -*a* (in proper names, e.g. *Prestota*) as against a nom. ending in -*o*, -*a*, -*u*.⁶⁶

In Greek (Schwyzer, p. 560 and Chantraine, *Gr. Hom.*, p. 199f.) one finds only traces of the vocative ending in -*ā* in the feminines, in Homer νόμφα (Γ 130 δ 743) and a few forms in Sappho, which are also said to be used as nominative. Here one quotes (Schwyzer, p. 558 Zus. 1.; recently Chantraine, *Morph.*,² p. 49) Δίκα Εἴρᾱνα ἔρᾱννα. According to the index of Lobel-Page the last form occurs only in the

⁶⁵ The connection with γύναι is untenable. Viewed from Greek, this is the normal vocative consisting of the stem *γυναικ-. It is highly improbable that the vocative would function as stem; the use of vocatives as nominatives to be discussed later is not at variance with this, since we are concerned here with specific artificialities of the epic (and perhaps religious) language; Lat. *Iovis* etc. does not give sufficient support for this assumption either. Incidentally, in that case the same would have had to have happened in Armenian (*kanay-*). This is already mentioned in Brugmann, *Grundr.*, II², p. 135.

⁶⁶ Bold face indicates transcription of Umbrian script.

accusative (ἐρανον *Fr.* 132). The forms Δίκα, *Fr.* 81(b), cf. 82(a), Εἴρανα *Fr.* 91, 135 occur only as vocative. Hamm's grammar, p. 147 § 223, also gives them simply as such; the nominative of the *ā*-stems is not stated there separately. Consequently in my opinion there is no ground for the assertion that these vocatives are used by Sappho as nominatives.

In the case of the masculine *ā*-stems (which acquired an *-s* secondarily in the nominative in Greek) the vocative ending in *-ǎ* is frequent, e.g. τοξότα (Λ 385), συμβῶτα (Ξ 55). This is very widespread in Homer, Chantraine, *Gr. Hom.*, p. 200; for Attic see Kühner-Blass, I², p. 387.

Inscriptions give nominatives ending in *-a*, Boeot. ὀλυμπιονικά, El. τελεστά (Schwyzer, p. 560 β), but it cannot be made out whether the *-a* here is long or short (Chantraine, *Morph.*², p. 54). It is therefore not clear whether these forms must be linked with what is under discussion here.

A special problem is formed by a small group of these words in Homer, a specific problem of Homeric language.

This group consists of ten forms that are used as nominatives. Only three are also found as vocatives, and in the case of two of them the nominative ending in *-ης* also occurs; three are ἄπαξ λεγόμενα (to which one may probably add ἀκάκητα; *infra*). The forms are the following:

εὐρύοπα	voc. Π 241; nom. Il. 9 times, Od. 7 times; acc. Il. 6 times.
μητίετα	voc. A 508; nom. Il. 14 times, Od. 3 times.
κυανοχαῖτα	voc. O twice, ι; nom. N Ξ; (-ης Y ι; -η Y γ).
νεφεληγερέτα	nom. Il. 22 times, Od. 8 times (gen. -αο Il. 6 times).
ἱππηλάτα	nom. Il. 9 times, γ twice [-ᾱς A.]
ἱππότα	nom. Il. 26 times, γ 9 times, δ [-ης S.]
ἀκάκητα	nom. Π 185 ω 10
στεροπηγερέτα	nom. Π 298
αἰχμητά	nom. E 197 (-ης Γ P β; -η, -ην, -ᾱ (du.), -αι, -αων)
ἥπύτα	nom. H 384.

All are epithets of gods and heroes, except ἥπύτα κῆρυξ (fin.). Εὐρύοπα, μητίετα, νεφεληγερέτα, στεροπηγερέτα are connected only with Zeus, κυανοχαῖτα with Poseidon (or γαίηοχε or independently to designate Poseidon), ἀκάκητα with Hermes. This suggests that this usage has its starting-point with the names of gods. With regard to heroes one finds αἰχμητά, a ἄπαξ, but a very ordinary word that occurs in many other forms; further only ἱππηλάτα and ἱππότα, in themselves very frequent words, of which, however, the nominative ending in *-ης* was metrically impossible; ἥπύτα κῆρυξ is the last step in the "profaning" of this use of the forms ending in *-ǎ* (derived directly from ἥπύω). On the other hand, the epithets for gods are all words that are otherwise not known, mostly compounds, whose meaning is often not known to us exactly. Risch, *Sprachgesch. u. Wortbed.*, pp. 389-97, assumes that Γερήνιος ἱππότα Νέστωρ (30 times) is older than the metrical variant γέρων

ἱππηλάτα Πηλεΰς (4 times): where Γερήνιος was not applicable it was replaced by γέρων and therefore ἱππότα by ἱππηλάτα on behalf of the metrical structure. Further, αἰχμητά would go back to this formula, having regard to the resemblance of E 197 and I 179, and ἡπύτα on account of that between H 383 f. and I 52 (cf. the phonetic structure ἡπύτα — ἱππότα and Hes. *Op.* 582 ἡχέτα τέττιξ; κήρυκι Ἥπυτίδῃ P 324 would be based on ἡπύτα).

It has been postulated that this was an old nominative ending in -τα (see the lit. in Schwyzler, p. 560 a). In that case the -α would have to go back to PIE -ə and was compared with Skt. *már-īc-i* 'ray of light', which is said to have -i from -ə. But, as -īc- developed from -i-*h*₃k^u- (with the same root as ὀπ- 'to see'), the ending must be an old i, because i < ə(*h*) did not palatize; see the Introduction, p. 9.

Meillet believed it to be an interchange *ā/ə* (*eĥ*₂/*h*₂) (*Introd.*⁸, p. 319). However, this is improbable, because there is no trace of ablaut in *ā*-stems (with the apparent sole exception of μέγα, see p. 153).

The hypothesis of the nominative ending in -(τ)α also does not explain why this was preserved precisely in the case of a few epithets of gods, while it is understandable that the form in which they were invoked became a noun. This idea was latterly defended by Risch (*loc. cit.*). That old forms were preserved in the invocation of gods is evident from Russ. *bože*, Gr. Ζεῦ ἄνα (Γ 351 Π 233 p 354; cf. Leumann, *Hom. W.*, p. 39 f.). Lat. *Iuppiter* is not only the sole vocative without ending of the third declension (Sommer, *Hb.*, p. 374; **Diēu ph₂ter* = Ζεῦ πάτερ as against nom. **Diēus ph₂tér*), but was also used as nominative⁶⁷ and formed the starting-point for a new declension (*Iovis* etc., from **Dieu-es*, instead of PIE **Diwós* etc.). It becomes probable that we are concerned with a vocative in these forms by the use of κυανοχαῖτα. It is found in the following places:

- O 174 ἀγγελίῃ τινά τοι, γαιήοχε κυανοχαῖτα
- 201 οὕτω γάρ δῃ τοι, γαιήοχε κυανοχαῖτα
- ι 528 κλυθι, Ποσειδάων γαιήοχε, κυανοχαῖτα
- N 563 κυανοχαῖτα Ποσειδάων, βιότοιο μεγήρας
- Ξ 390 κυαναχαῖτα Ποσειδάων καὶ φαίδιμος Ἔκτωρ
- ι 536 ὧς ἔφατ' εὐχόμενος, τοῦ δ' ἔκλυε κυανοχαίτης
- Υ 144 ὧς ἄρα φωνήσας ἡγήσατο κυανοχαίτης
- γ 6 τάρους παμμέλανας, ἐνοσίχθονι κυανοχαίτη
- Υ 224 ἱππῳ δ' εἰσάμενος παρελέξατο κυανοχαίτη

It seems that the formula of ι 528 is the oldest one, from which on the one hand that of O is derived, and on the other hand, with the vocative as nominative before Ποσειδάων, that in N and Ξ (both γαιήοχε and the name Ποσειδάων are found together in self-evident fashion in ι 528, and in ι too one finds the nominative with the normal ending -ης; ἱππῳ in Υ displays the continuing "profaning").

⁶⁷ An older nominative is *Diespiter*; *diēs* has the *ē* from the accusative **diēm* (for this form see p. 174.) and *i* from the weak cases (**diwós*), and possibly also from sandhi, after consonant in accordance with Sievers' Law.

Εὐρύοπα is a special case, which has to be considered separately. If we compare the places, we find that εὐρύοπα Ζεύς occurs nine times in the *Iliad* and seven times in the *Odyssey*, always at the end of the verse. Six times it is found as accusative in the *Iliad*, namely Θ 206 Ξ 265 Ω 331 with εὐρύοπα Ζῆν at the end of the verse and Α 498 Ο 152 Ω 98, which verses began with εἶρεν (-ον) δ' εὐρύοπα Κρονίδην. Besides εὐρύοπα Κρονίδην, the form εὐρύοπα therefore occurs exclusively at the end of the verse, followed by a form of Ζεύς (20 times). We are thus concerned here with a formulaic group of words that originally stood at the end of the verse (the most conservative part). The placing at the beginning of the verse was therefore an innovation. Coupled with this was the replacement of Ζῆν by Κρονίδην, evidently to avoid the strange form Ζῆν; with Ζῆν word end would also fall at a forbidden place (after the sixth element).

Although it is possible to assume here too that an old vocative is the startingpoint, the interpretation generally accepted (see the lit. in Frisk and Risch, *loc. cit.*) that εὐρύοπα Ζῆν is the older formula is nevertheless more probable. In that case Ζῆν is the direct continuation of PIE **Dǵem*; after all, it cannot be assumed that the form Ζῆν was created for the sake of the metre. The form is thus further irrelevant here. (As regards the vexed question of whether the word contains the root δπ- 'voice' or 'to see', the following may be said. In my opinion εἶρεν- points more to 'to see' than 'to speak'. The form cited in this context, βαρυόπαν (Pi. P. 6. 24), where δπ- clearly means 'voice', exactly does not have εἶρεν-. Incidentally, it is the question whether much value can be attached to this word for the original meaning of εὐρύοπα. The same concept 'widely surveying' is found in Ved. *uru-śakṣas-* (of Varuna, Mitra and Agni) and Av. *vouru-caśāni-* (of Ahuramazda), in which *uru-*, *vouru-* is etymologically cognate with εἶρεν-; see R. Schmitt, *Idg. Dichterspr.*, p. 128 f.)

Everything therefore suggests that the derivation given by Brugmann (*MU* 2, p. 199 f.; *Grundr.*, II² 1, pp. 416 f.) of these forms ending in -α from the vocative is correct. This impression is confirmed if a number of other similar words are compared that occur as vocative:

E 31 = 455	Ἄρες Ἄρες, βροτολοῖγε, μαιφόνε, τειχεσιπλῆτα
Γ 3 = N 768	Δύσπαρι, εἶδος ἄριστε, γυναιμανές, ἥπεροπευτά
Λ 385	τοξότα, λωβητήρ, κέρα ἄγλαέ, παρθενοπίπα
Α 159	τιμὴν ἄρνύμενοι Μενελάω σοί τε, κυνῶπα

For Π 31 αἶναπέτᾱ (?) see Chantraine, *Gr. Hom.*, p. 200.

These forms also show that they stood in pause, often at the end of the verse too, not before the word to which they related, as also appeared with κυανοχαῖτα. Compare for the placing Π 233 Ζεῦ ἄνα, Δωδωναίε, Πελασγικέ.

Comparing these Homeric forms with the vocative ending in -ā in Old Bulgarian and Umbrian, one arrives at the conclusion that an old vocative is concerned here, for which the pause shortening in Vedic and the laryngeal theory give the explanation: -eḥ₂ > [-aḥ₂ >] -ā. This is also in accordance with the fact that the vocative consists

of the stem without ending and that the \bar{a} -stems do not have another stem form than $-\bar{a}$ ($-e\bar{h}_2$).

For the relative chronology it is important to establish that the laryngeal did not disappear here until the separate languages (on account of the sandhi in the Rigveda), but that the general a -colouring indicates that this still took place in the common language; one therefore has PIE $-e\bar{h}_2$ realized as $-a\bar{h}_2$, and Gr. (OCS and Umbr.) $-e\bar{h}_2$ ($[-a\bar{h}_2]$) $>$ $-\bar{a}$.

It is understandable that the nominative always has $-\bar{a}$, and the vocative (also) $-\bar{a}$, although both are sandhi variants of the same form, owing to the fact that the vocative by nature (i.e. *always*) stood in pause, and the nominative only occasionally before vowel (or in pause). The use of the vocative ending in $-\bar{a}$ as nominative was probably not a development of the living language, although it is possible that it did not belong exclusively to the artificial language of the epic, but also to religious language. The fact that the vocative ending in $-\bar{a}$ was better preserved in masculines than in feminines will be a consequence of the fact that the nominative here differed more clearly from the vocative (masc. $-\bar{a}\zeta$: $-\bar{a}$, fem. $-\bar{a}$: $-\bar{a}$).

(The objections of J. T. Hooker, *Glotta* 45 (1967) 14-22, to the theory of the old vocative are in my opinion not decisive.)

IV. AFTER CONSONANT

The comparison of the 1 pl. midd. ending -μεθα with Indo-Ir. *-madhi* leads to the reconstruction **medhh* (**-medhə*). It cannot be made out whether this laryngeal was vocalic or consonantal in PIE. On the strength of the comparison with the following (the ending of the neuter plural), where secondary vocalization in the separate languages of an originally consonantal laryngeal is certain, one is inclined to assume that here too the laryngeal was consonantal. As in my opinion the vocalization of *h*₁ and *h*₃ in Greek gave ε and ο respectively, we have here the *a*-colouring laryngeal, i.e. **-medhh*₂.

As the ending of the neuter plural *a* is assumed, i.e. within the laryngeal theory a laryngeal. This conclusion is based on the correspondence of Skt. *-ā* (of the *a*-stems), *-ī*, *-ū* (with the *i*-, *u*-stems) and *-i* (with the consonant stems) with the ending *-ā* in other languages, including Greek. It is evident that we are concerned here with a consonantal laryngeal from the interchange *-i/-ī* and *-ū/-ū* in Vedic (Kuiper, *Shortening*, pp. 264-78; see the preceding section). *H*₂ is demonstrated by the *a* of Greek. In accordance with this is the identification of this laryngeal with the ending of the feminines, which, as emerges from the Sanskrit endings *-ā*, *-ī*, *-ū*, was a laryngeal, and in view of Gr. etc. *-ā* was an *a*-colouring one. Cf. Schwyzler, p. 581 Zus.

After consonant one finds this ending for instance in φέρωντα (Skt. *bhārantī*), μέζω < -οσα < *-osh*₂, cf. Myc. *mezoa*₂ 'mezoha', γένεα (Lat. *genera*, Skt. *mānāmsi*, Av. */manāh/*, written *mand*). For the last group the Avestan form points for Indo-Iranian to **manās-h*, with consonantal laryngeal.⁶⁸ Cf. the Introduction, p. 8.

This exhausts the material. Only one group may still be of importance here, that of the Greek adverbs ending in *-a*, κατά ἀνά διὰ etc., Schwyzler, p. 622,8.

Benveniste, *Origines*, p. 89 ff., attempts to derive *-a* from *-h*, the zero ending of stems in *-r/n*; in that case the adverbs ending in *-ap* < *-r* would therefore form a parallel. However, adverbs ending in *-ap* are very rare in Greek; one finds only three, ἄφαρ, εἰθαρ and ἵκταρ, to which one could possibly add the forms ἥμαρ and ὄναρ. One does not find a single case of a form ending in *-ap* beside one ending in *-a*. Nor would one expect the ending *-r/n* after sonants (παρά μάλα θαμά ἅμα ἀνά) or after vowel (διὰ), even though there are examples of this with the substantives (Schwyzler,

⁶⁸ Burrow's idea, *Sanskrit Lg.*, p. 236, that Sanskrit had a PIE ending *-i* is based on the Hittite *-i*. However, Brosman, *JAOS*, 82 (1962), 63-5, demonstrated that the latter is a Hittite innovation.

p. 519,5): *ἔναρ θέναρ ἦμαρ ὄναρ. I therefore do not believe that this is the right solution.

The view that an instrumental ending *-a* forms the basis here also seems untenable (this is the view expressed for instance in Meillet, *Introd.*⁸, p. 295, besides the literature stated by Schwyzler). It has been shown above that it is improbable that PIE had a phoneme *a*, or at least that it occurred in any essential part of the linguistic system, while in the last chapter it was moreover demonstrated that the old instrumental ending was *h₁*. As in my opinion *h₁* in Greek became *ε*, not *α*, the explanation of the *-α* of the adverbs as the ending of the PIE instrumental cannot be correct.⁶⁹

On the strength of ἄνω κάτω Von Blankenstein, *IF* 21 (1907) 99-115, derives *-α* from *-ə*. But if the ending *-ω* is an instrumental, as he assumes (as does Schwyzler, p. 550), then this arose from *-oh₁* and *-α* would have to stem from *-h₁*. Compare with these forms Myc. *paro* (παρά).

Perhaps of importance here are the forms ending in *-αι*, παραί κατάι (unless the latter developed on the analogy of παραιί). This ending could go back to *-eh₂i*, but *-h₂-ei* could also be considered. Beside *-α* (and *-αι*) forms ending in *-ι* occur, in κατι- (Thess. κατιγνετος, Hom. κασίγνητος), **meti* (OE *mid(i)*, OHG *mit(i)*). If *-(τ)α* (κατά μετά) goes back to *-(t)h₂*, *-(τ)ι* may come from *-(t)h₂i*. In my opinion *-thi* is suggested by Hitt. *hanti*, where one would have expected *-zi* if there had been no laryngeal between the *t* and the *i*. For Gr. ἀντί (as against κασι- in κασίγνητος) see Lejeune, *Traité*, p. 54.

It is not self-evident that all the cases stated in Schwyzler (p. 622,8) have the same origin. Allowance must also be made for marked mutual influence. A careful study of the Greek dialect forms is a prerequisite here. Consequently it is not possible to go into this set of questions further. It can only be stated that if a laryngeal must be assumed here, this must have been *h₂* (> *a*), so that the instrumental ending cannot have been the origin here.

In one case it can be shown that *-h₂* served as a neuter ending with a stem ending in *eh₂*. It may be wondered whether this ending may be connected with the preceding one. The form in question is μέγα, of which the laryngeal is demonstrated by Skt. *māhi*.⁷⁰ OIcel. *miok* < Germ. **meku* may also be derived from **megh₂*; the *-u* is not analogic (Frisk, II, p. 190), but phonetic, cf. Kuiper, *Act. Or.* 20 (1948) 28. The declension which, on the basis of Pedersen, *Cinq. décl.*, p. 47 ff., is reconstructed as follows, guarantees the laryngeal by the explanation of Skt. *h* < *g-h* before vowel, which has spread from there to the other forms:

sg. nom.	* <i>meg-éh₂</i>	(Skt. <i>mahā-</i>)
acc.	* <i>meg-éh₂-m</i>	(Ved. <i>mahām</i>)

⁶⁹ One could assume *ε* < *h₁* in τῆλ-ε ὄψ-ε and the particles -δε -9ε -σε -τε (Schwyzler, p. 631:10). However, for -δε this is impossible on account of Av. *-da*. For -τε cf. Lesb. *-τα* Dor. *-κα*. The cases mentioned need not, of course, all be of the same origin.

⁷⁰ That Skt. *māhi* is immediately identical with μέγα and does not go back to an *i*-stem (**megh₂-i*), as Burrow (*TPhS*, 1949, 45, *Sanskrit Lg.*, p. 228) assumes, is confirmed by the formula μέγα κλέος — *māhi śravas* (Mayrhofer, II, p. 610, R. Schmitt, *Idg. Dichterspr.*, n. 484).

gen. **meġ-h₂-ós*Ved. *mahás*

Only for one of the forms cited above it can be made probable that the -a developed from a laryngeal. As is shown below (p. 208) the forms connected with ἄμα must have had a laryngeal, e.g. ἄμο-, Skt. *simá-* < **s_emĥo-*, ὁμός, Skt. *samá-* < **som-ĥo-* (**somo-* would have given Skt. **sāma-*). It is then a reasonable assumption that ἄμα developed from **s_emĥ₂*. (For ἀνά see p. 208 n. 103.)

For κατά see p. 209.

V. AFTER *i*, *u*

Laryngeal at the end of the word after *i* or *u* presents a special problem. In practice we are concerned here with the neuter plural of the *i*- and *u*-stems and the feminines that are based on PIE $-ih_2$ ($-uh_2$). Greek forms a problem here, since here one finds $-ια/-ja$, $-υα/-fa$ as against $-ī$, $-ū$ in many other languages. The question here is whether the Greek forms are based on a phonetic development or whether they developed through analogy.

The first group that matters here is that of the feminines ending in $-ια$. These occur in the oldest Greek. One finds $πότνια$, Skt. *pātnī*, in Myc. *potinija*. The words ending in $-τεια$, $γενέτεια$, Skt. *jānitṛī*, Lat. *gene-trī-c-*, perhaps go back to older $-τρια$ ⁷¹: $ἑρέτρια$ ($*h_1erh_1-tr-ih_2$), $δέκτρια$ (Archil.), of which various forms are found in Mycenaean, *aketirija*, *meretirija*, *pekitira*₂ ($ra_2 = rja$), *rapitira*₂ (Docs., Vocabulary s.vv.; a representative of $-τεια$ is not known); finally another Mycenaean form is *topeza* ('*torpeza*') $τράπεζα$ < $-ped-ja$. The forms are found in very archaic words and often have exact counterparts in Indian: $Πλάταια$ (B 504) — *pṛthivī*, $πίτεια$ — *pīvarī*, $τέκταινα$ — *takṣhñī* ($*tek^snih_2$),⁷² Arc. Dor. $ἑασσα$ — *satī* ($*sñt-ih_2$), Cyren. $ἑκασσα$ — *uśatī* ($*uēk-$ and $*uēk-ñt-ih_2$ respectively), $φέρουσα$ — *bharantī* (Lith. *vežanti*, OCS *vezōšti*, Goth. *frijondi*), (F) $ιδύα$ — *vidūsī*. In view of the ablaut in the stem $ὀρόγυια$ $*ōrguiās$, $ἄρεπυια$ $*arpuīās$ are also old and perhaps $αἶσα$ $īś(σ)ης$ (cf. p. 128; $*h_2éit-ih_2$ $*h_2it-iéh_2-s$).

That the end of the word is particularly concerned here is evident from $γλῶσσα$: $γλωχίς$, if both are derived with the element $-ih_2$ from the stem of $γλῶχ-ες$ (and $-ίς$ thus is based on $-ih_2s$). It is much less certain that $πέδιλον$ goes back to $*ped-ih_2-lom$, from $*ped-ih_2$ in $πέζα$, Germ. $*fet-ī$, OIcel. *fit*.

The first question is what the inherited form was. It has been postulated (see for instance *AiGr.* 3, p. 167) that the basic language already had $-ī$ ($-ū$), on the strength of the agreement in representation ($-ī$, $-ū$) in various languages; cf. beside Indo-Iranian (*supra*) Lith. *patī* (gen. *pačiōs*), OCS *bogynji* (with secondary *j*), Goth. *mawī* (gen. *maujōs*). The sandhi phenomena of these endings, notably the vocative *devī* (nom. *devī*, gen. *devyāh*) in the Rigveda, however, prove that $-ih_2$ $-uh_2$ was preserved

⁷¹ The interrelation of these and similar forms should be further examined; cf. Skt. *pīvarī* *infra*.

⁷² The distribution of $-ja$ and $-ια$ ($iā$) and — partly connected with these — that of the forms $-εια$ $-ρια$ $-αιρα$ and $-νια$ $-αινα$ should be submitted to a close examination.

down to the separate languages (p. 145). It is therefore possible that -ia/-ja is a phonetic development of -ih₂.

The form *πότνι, Schulze's conjecture for the vocative πότνα (ε 215 v 391 v 61), which is based on Ved. *pátni*, could therefore, like *pátni*, be explained as a pause form of **potnih₂*, as also the Greek vocatives ending in -ᾱ of the *ā*-stems from -*eh₂* > [-*ah₂* >] -ᾱ (p. 147 ff.). However, there is no support in Greek for *πότνι (certainly not the vocative βοῶπι, cf. Chantraine, *Gr. Hom.*, p. 208), while the form πότνα can in my opinion be explained. Wackernagel (*Gött. Nachr.*, 1914, p. 25 n. 1) supposed a connection with πρέσβα, but thought that the latter went back to the example of πότνα. However, an argument against this is that πρέσβα is historically explicable as a phonetic form (*infra*) and πότνα is not, while πότνα occurs in the *Odyssey* and πρέσβα in the *Iliad*. In the *Iliad* the vocative is πότνια, πότνια μήτηρ Z 264 (fin.), (βοῶπις) πότνια Ἥρη⁷³ Θ 471 O 49 Σ 357 (fin.). Πρέσβα occurs in a solemn invocation of Hera Ξ 194 = 243; in E 721 = Θ 383 as nominative (with θυγάτηρ): Ἥρη, πρέσβα θεά, θύγατερ μέγαλοιο Κρόνοιο. T 91 (πρέσβα Διὸς θυγάτηρ Ἄτη ...) and γ 452 (... Εὐρυδίκη, πρέσβα Κλυμένοιο θυγᾶτρων) probably go back to this formula. In my opinion, on the formula in Ξ that of v 61 is based: Ἄρτεμι, πότνα θεά, θύγατερ Διός, αἶθε μοι ἦδη. The change could still have taken place in the verse of Ξ (i.e. Ἥρη, πότνα θεά); πότνια is also an old epithet of Hera, as we have seen (n. 73). In v 391 and ε 215 too one finds the formula πότνα θεά (Athena and Calypso — a minor deity — respectively, cf. T 91 *supra*), in v at the same place in the verse, in ε at the beginning. (For πρέσβα see p. 158). The form πότνα is therefore an artificial one and must further be left out of consideration.

The declension of these feminines may be reconstructed as follows:

	PIE	GR	VED	
sg. nom.	-ih ₂	-ia, -ja	-ī	-īs
acc.	-ih ₂ -m	-iav, -jav	-īm	-iam
gen.	-iéh ₂ -s	-jās	-yāḥ	(-iaḥ < *ih ₂ -ós)

The genitive cannot have given anything else but -*iās* (in all languages), but the development of the accusative is unclear. As the accusative of *pánthāh* (-*ām*), which goes back to **ponteḥ-m*, must be read in the Rígvēda as -*āām* (Kuryłowicz, *Etudes*, p. 35), the development here must have been -*eh-ṇ* > -*a(h)am* > -*ām*. In the same way one would therefore have expected -*ih₂-ṇ* > -*iham* > -*iam* in Indian. This ending is in fact found, but in addition -*īm*, which Avestan also has, while Old Irish also points to that (Schwyzer, p. 473). Within Greek forms like γλωχίνα might suggest an accusative -*īm*. Of course, the difference could be a sandhi phenomenon (*iḥm* V- > -*īm* V- as against -*iḥm* C- > -*iḥm* C-), but there is nothing to show this and the distribution in Vedic does not point in that direction. This problem cannot be further discussed here. For Greek allowance must therefore be made for two possibilities:

⁷³ Ruijgh, *Het Myceense dialect*, Leyden 1966, pp. 14 and 22, points to the great age of this formula. It seems to date from a time when the *h* was still pronounced and prevented hiatus as in Mycenaean (*opia₂ra* 'opihala' as against Hom. Ὀφθαλός).

-iĥ ₂	-iα/*-ī
-iĥ ₂ -m	-iα(v)/*-īv(α)
-iĥ ₂ -s	-jūs

It is therefore conceivable that the nominative -iα developed under the influence of the oblique cases.⁷⁴ However, in that case one would expect -iā/-jā instead. If the accusative was -īv, it would be irrelevant here, but if -iα (with -v added later) was phonetic, the nominative -iα may have been formed after this accusative -iα(v). Phonetically, -iĥ₂m > -iα seems to me the most probable for Greek, but — as stated above — the cognate languages seem to point to -īm.

The idea that a paradigm -ā -āς (-ĥ₂ -eĥ₂-s) would have exerted influence is untenable, since such a declension did not exist (Schwyzer, p. 476:6). Come to that, in such a case influence of -ā -āς would be more obvious (Pedersen, *Cinq. décl.*, p. 32, n. 1).

As stated above, the neuter plural of the *i*- and the *u*-stems in Greek also has -ja, -fa as against -ī, -ū elsewhere, e.g. τρία, Ved. *trī*, OCS *trī*, Ir. *tri*, Alb. *trī* (fem.); δάκρυα, Ir. *dēr* < **daĥrū*. Gr. τριᾶκοντα as against Lat. *trīginta* must be analogic (as also the length of the α, after τετρώκοντα πεντήκοντα). In this way the -α may be analogic in τρία itself and the whole type, just as these forms were transformed in Latin (into -ia, -ua). That Greek had extension of the -α of the consonant stems is demonstrated by the ending -ᾶ of the *o*-stems, as against -ā in Ved. *yugā*, OCS *iga*, Goth. *juka*, although here these can be explained in part as the ending of an original consonant stem (Schwyzer, p. 581). (It is not probable that this short -α developed from -e-ĥ₂ before vowel and in pause, since only -ā is known in the nominative of the feminines ending in -eĥ₂.)

Cret. ατι 'ἄτινα' has been put on a par with Av. *čī* (Schwyzer, p. 581) and is said to prove **tī* < **k^uiĥ₂*, but this may be an indeclinable particle -τι, the more so on account of οτι 'οὔτινος' (a view stated by Buck, *Gr. Diall.*, p. 102). In that case Megar. σα, Ion. ἄσσα (from -α σσα) is old (σσα should not be reconstructed in τ 218, Chantraine, *Gr. Hom.*, p. 280). Latin has *quia*, which is analogic; compare for this the instrumental *quī*, Av. *čī*, which will go back to **k^ui-ĥ₁* (see p. 146f.).

To suppose that πολλάκις (Il.) replaces an older *πολῶκις, parallel to Ved. *purūcid*, (Schwyzer, p. 299:4; and also Frisk s.v. -κις) to explain the κ does not in my view have enough of a basis: one is too quick to compare with the other languages here. The development of the labio-velar in **k^ui-*, **k^uo-* gives a series of problems (Schwyzer *loc. cit.*; cf. the scepticism of Lejeune, *Traité*, p. 37f.), which in my opinion must be regarded as a whole. It seems that -κις was added behind existing forms (in this case, therefore, πολλά). Even if a *πολῶκις should form the basis here, one cannot draw any conclusions from this regarding the development of -uĥ₂ at the end of the word.

⁷⁴ As recently stated by Szemerényi, *Kratylos*, II (1966), 213, n. 29, without argumentation,

Perhaps comparable is the dual ὄσσε, PIE **ok^uih*, Skt. *akṣṣī*, Av. *ašī*, OCS *oči*, Lith. *aki*, Arm. *ač-kʻ*. It is assumed that the ε of the consonant stems has been taken over and added to the original **ok^ui*. However, I do not see that **ok^ui-e* could have become **ok^uie* > ὄσσε (Lejeune, *Traité*, p. 38) and did not become **οτιε*, even if the -e was added when the laryngeal was still present, **ok^uih-e* > **οτιε*. It therefore seems to me that **ok^uih* in Greek became **ok^uie/a/o* (the colour of the laryngeal is unknown, p. 147) > **ὄσσε/a/o*, after which the ε was introduced, if this was not already phonetic (if *h₁*). However, allowance must be made for the possibility that *i* stems from the oblique cases. Cf. Winter, *Evidence*, p. 201, and Cowgill, *ib.*, p. 150 n. 12.

A parallel of the feminines ending in -ja < -i^h₂ with -fa < -u^h₂ is perhaps πρέσβα. As remarked above, πρέσβα seems an old form. The explanation by **presg^uu-i^h₂* > **πρεσγϣα* (which in my opinion would have become **πρεσγja* > **πρεσζα*) is not convincing: one would expect (**presg^ueu-i^h₂* >) **πρεσβεia* (which does not occur as an old feminine), such as ἡδεῖα as against Skt. *svādvī*. Consequently Schmidt, *Pluralbildungen*, pp. 57 f., among others, has explained it as a parallel of -ja with the u-stems, i.e. πρέσβα < **presg^uu^h₂*.⁷⁵ This form would explain the β < g^u (Cret. πρειγυς, Boeot. πρισγειες, Skt. *agre-gūh*) (Schmidt, Boisacq s.v.), but this probably comes from the oblique cases. As πρέσβυς is hysterodynamic (Kuiper, *Notes*, p. 49 f.), i.e. is fleeted -g^uēus -g^uēu-*h₁* -g^uu-ós etc., the β may stem from the antevocalic zero grade of the stem (with -g^uu-V); elsewhere, therefore, the γ was generalized from the anteconsonantal stem (with -g^uu-C); cf. Boeot. πρισγουτερος: Hom. πρεσβύτερος.

The form πρέσβα is of great importance here, since an explanation of this form by analogy starting from **presg^uu^h₂* **presg^uue^h₂s* > **πρεσγῦ* **πρεσβᾶς* is improbable.

The development -u^h₂ > -fa is perhaps also found in a few forms of αἰπύς in Homer. Here one finds the forms αἰπά (n. pl.) and αἰπήν, which seem to point to **αἰπός*. Chantraine, *Gr. Hom.*, p. 252, points out that αἰπήν occurs only in the more recent parts, N 625 γ 130 θ 516 λ 533 ν 316. However, this does not offer any explanation for the origin of these forms, since thematization (as in ἔτεός, κεν(ε)ός, μόνός, see Frisk s.vv. and Schwyzler, p. 472) does not seem probable to me in this case, since the word **αἰπός* does not occur any more (Hes. *Fr.* 150.23 MW has the Homeric αἰπά ῥέεθρα), whilst αἰπύς itself is found only in poets (Hes., Pi., B., S.). In Homer too the use of αἰπύς is limited: only nom. and acc., 25 times (out of 53) with ὄλεθρος⁷⁶. The feminine forms are -εῖα B 811 ~ A 711 and -εῖαν I 668.

⁷⁵ For the structure of this word cf. **sueh₂d-(e)u-* (ἡδύς), **bheh₂gh-(e)u-* (πῆχυς), **pleh₁dh-u-(e)h₁-* (πληθῦς).

⁷⁶ With few exceptions it occurs in the sixth or at the beginning of the fifth foot. Αἰπύς ὄλεθρος nom. (A 174. 441 M 345. 358 N 773 P 155. 244 ε 305 χ 28; non-fin. Ξ 99) and acc. (Z 57 K 371 Ξ 507 Π 283. 859 Σ 129 α 11 ι 286. 303 μ 287. 446 ρ 47 χ 43. 67; non-fin. α 37); αἰπὺν Ὀλυμπον (E 367.868; non-fin. O 84), αἰπύ τε τεῖχος (Z 327 A 181 ξ 472); on the boundary of the fourth and fifth foot αἰπὺ πτολίεθρον (B 538 γ 485 κ 81 ο 193). Πόνον αἰπύν (Π 651; non-fin. A 601), φόνον αἰπύν (P 365, non-fin. δ 843 π 379), χόλον αἰπύν (O 223), βρόχον αἰπύν (non-fin. λ 278), ὄρος αἰπύ (B 603.829 γ 287 δ 514, non-fin. τ 431). Entirely isolated cases are N 317 (first foot) and O 71 (Ἰλιον αἰπὺ init.).

On the two occasions that αἰπά occurs (Θ 369 Φ 9) one finds αἰπὰ ῥέεθρα at the end of the verse, preceded in Θ by Στυγὸς ὕδατος. If we are concerned here with an old formula, which is suggested by the use at the end of the verse and perhaps the connection with the Styx,⁷⁷ αἰπά could be based on *αἰπφα < -uĥ₂, i.e. have the old neuter plural of an *u*-stem. However, it is possible that αἰπά is a form determined by the metre, since αἰπὰ ῥέεθρα corresponds in metrical structure to αἰπὺς ὄλεθρος. One might assume an *αἰπὺ ῥέεθρον. In Homer only the plural ῥέεθρα occurs (12 times in Φ, 10 times elsewhere).

The form αἰπὴν appears in five related verses: γ 130 = ν 316 αὐτὰρ ἐπεὶ Πριάμοιο πόλιν διεπέρσαμεν αἰπὴν, λ 533 (ἀλλ' ὅτε δὴ etc.), θ 516 (... πόλιν κεραῖζμεν αἰπὴν), Ν 625 (... διαφθέρσει πόλιν αἰπὴν). Here too the form may have developed under pressure from the metre: if the word must form the sixth foot, as in φόνον (etc.) αἰπὺν, it must be disyllabic. However, none of these locutions conveys the impression of being older than that with αἰπὴν. A second possibility is that αἰπὴν is based on αἰπά, but the place in the verse does not suggest this. It therefore seems probable to me that this form is an analogic transformation of the feminine *αἰπφα with -φα < -uĥ₂. Great age of this form (or the one it represents) is suggested by the use at the end of the verse — and perhaps the meaning of γ 130.

In this way the adverbs ending in -α of adjectives ending in -ύς could also be explained, such as κάρτα, τάχα; see Schwyzler, p. 622. Thus ῥίμφα could be based on *(f)ρεμφα < *fpeγχα < *(y)renghuĥ₂, having regard to Lith. *rāngstus* etc.; see Frisk s.v. With θαμά, however, one would expect lengthening of the stem vowel in Ionic (*θαμφα > *θαμα); however, analogically this could again have been done away with. But I see no possibility of further verifying the correctness of this assumption.

An explanation by analogy is therefore possible for various categories of -ja -φα from -iĥ₂ -uĥ₂. However, if one considers the whole, it seems more obvious to assume a phonetic development than to accept that everywhere an analogy, and each case a different one, operated to give an (again) identical result ultimately (everywhere -ja -φα).

If this is true, Greek — unlike all other languages — would have vocalized a consonantal laryngeal here. This recalls the fact that Greek (with Armenian) is the only language that vocalizes the consonantal laryngeal at the beginning of the word (before consonant). These facts must evidently be considered together: Greek thus has a greater tendency towards vocalization of the laryngeal than the other languages, which is evidenced by the treatment of the laryngeal at the beginning and end of the word. However, the differences between these two cases must be recognized: at the beginning of the word only laryngeal before consonant (*HCV-*, *HRV-*) is vocalized; laryngeal after consonant at the end of the word is vocalized in several languages (but not for instance in Avestan, cf. *manā*, *supra*, p. 152). At the end of the word the laryngeal is, as we saw, also vocalized in -iĥ₂, uĥ₂ after consonant; at the beginning of

⁷⁷ The qualification αἰπὺς is very suitable for the waterfall that has been identified as the Styx, which falls from a height of 60 m.

the word $i\check{h}_2C-$, $u\check{h}_2C-$ does not become $jaC-$, $faC-$ (nor does h_1iC- become $aiC-$). I do not see any connection with other phenomena at the beginning or end of the word in Greek (Lejeune, *Traité*, pp. 239-55).

It would be interesting to investigate how Armenian deals with these forms (cf. *eresun* 'thirty' from **eri-a-sun* according to Meillet, *Esquisse*², p. 164).

The inevitable conclusion is that $-i\check{h}_2$ was preserved down to Greek and had not become $-i$ in PIE. This is also postulated by the sandhi phenomena in Vedic (p. 145). It is not clear to me how Lehmann, *PIEP*, p. 91, can deny this: "The presence in Greek of such uncontracted forms does not contradict the assumption that $/i/$ and $/u/$ were phonemic in PIE. Gk. merely preserved and generalized some infrequent case forms". For it is not conceivable that some forms were preserved uncontracted. Lehmann believes that the same development may be found in the middle of the word in $\pi\rho\acute{\iota}\alpha\mu\alpha\iota$ (sic) etc. These forms are discussed on p. 247 ff. It seems to me that they have to be explained differently.

a. Adverbs ending in $-\tau\iota$

It may be wondered whether the adverbs ending in $-\tau\iota$, which in Homer have partly a short $-\iota$ and partly a long one, form a parallel of the sandhi phenomenon found in the Rigveda. The length of $\acute{\alpha}\mu\alpha\chi\eta\tau\acute{\iota}$ Φ 437 and $\acute{\alpha}\mu\omicron\gamma\eta\tau\acute{\iota}$ Λ 637 cannot be determined. Of all these words the penultimate syllable is long. Five of them have in the two preceding syllables the structure $\cup \text{ — }$, so that here the last syllable must necessarily be long if the word is to be used in the hexameter (the structure $\cup \text{ — — } \cup$ being excluded): $\acute{\alpha}\nu\iota\delta\rho\omega\tau\acute{\iota}$ O 228, $\acute{\alpha}\nu\omicron\upsilon\tau\eta\tau\acute{\iota}$ X 371, $\acute{\alpha}\nu\omega\iota\sigma\tau\acute{\iota}$ δ 92, $\acute{\alpha}\nu\alpha\iota\mu\omega\tau\acute{\iota}$ P 363. 497 σ 149 ω 532, $\acute{\epsilon}\gamma\rho\eta\gamma\omicron\rho\tau\acute{\iota}$ K 182. Of the others (with the structure $(\cup) \cup \text{ — } \cup$) $-\iota$ is short: $\mu\epsilon\lambda\epsilon\acute{\iota}\sigma\tau\acute{\iota}$ $\mu\epsilon\gamma\alpha\lambda\omega\sigma\tau\acute{\iota}$ $\acute{\epsilon}\kappa\eta\tau\acute{\iota}$ $\acute{\alpha}\epsilon\kappa\eta\tau\acute{\iota}$. The words are not limited to fixed formulae; one finds only ($\delta\acute{\iota}\alpha$) $\mu\epsilon\lambda\epsilon\acute{\iota}\sigma\tau\acute{\iota}$ $\tau\alpha\mu$ - (3 times) and $\mu\acute{\epsilon}\gamma\alpha\varsigma$ $\mu\epsilon\gamma\alpha\lambda\omega\sigma\tau\acute{\iota}$ (twice), of which the first does not point to the phenomenon discussed here (before consonant one would expect long $-\iota$). It therefore seems most probable that the long ι is a lengthening for the sake of the metre, and that there is no reason to assume a laryngeal here.

b. The Group $-(t)rh$

Separate mention should be made of $\nu\acute{\epsilon}\kappa\tau\alpha\rho$, of which the second part has been identified as the stem $*terh_2-$ 'überqueren, überwinden', which is found in Vedic compounds ending in $-tur-$ (nom. $-túr$, acc. $-túram$). R. Schmitt, *Idg. Dichterspr.* n. 12, pp. 38 f. and pp. 155-8, both with notes, recently discussed this matter in detail. He rejects Thieme's attempt (*Stud. z. Idg. Wortkunde u. Religionsgesch.*, pp. 5-15) to explain the representation $-\tau\alpha\rho$ of PIE $-trh_2$ as a neuter ending in $-tr$ beside a masculine ending in $-trh_2$, which in fact would still have to be explained itself. Pisani's explanation (*OLZ* 48 (1953) 121 n. 2) of the nominative from the declension (gen. $-trh_2-os$ > $-\tau\alpha\rho\varsigma$) is rejected by Schmitt because the nom.-acc. is much more frequent than other cases, *Il.* 5 : 0, *Od.* 2 : 1 (gen., ι 359). Schmitt himself assumes that $-\tau\alpha\rho$

is phonetic, owing to the fact that the laryngeal disappeared, either in sandhi before vowel or like all final consonants (**ébheret* > ἔφερε). I do not believe — assuming the correctness of the whole etymology — that the latter explanation is the right one. There is no evidence of disappearance of the final laryngeal in Greek (cf. for instance μέγα < **meǵh₂*, γένεα < -*esh₂*, -ᾱ < -*eh₂*); the disappearance in the vocative is another case, because this form *always* stood by nature in a position in which it had to disappear. In Indian the -*h₂* has also been preserved in the nom. -*tūr*. The conceivable developments are in my opinion 1. -*tṛh₂* > -*ṛā* as in the middle of the word; 2. -*trh₂* > -*ṛā* (cf. -*jā*); 3. -*tṛh₂* > -*ṛa*. Now, whichever of these three may have been the phonetic development, it seems to me evident that this form was replaced by -*ṛa* after the example of the words ending in -*a* and under influence of the paradigm (as Pisani believed), since otherwise this neuter nominative would have been entirely isolated in Greek. This would be quite obvious, especially if the third assumption was the right one.

**LARYNGEAL IN THE MIDDLE
OF THE WORD**

Compared with the position at the beginning or the end of the word, the possible surroundings for the laryngeal in the middle of the word are of course greater. They will all be considered separately in the following chapters.

An explanation, as in the preceding section, is hampered by the sonants which, depending on the further structure of the word, may function either as consonants or as vowels. In one case they display a special development that must be discussed separately. To make the treatment clearer, a survey will be given of the following chapters:

after vowel	Ch. VI.	<i>VHC</i>
	Ch. VII.	<i>VHV</i>
	Ch. VIII.	<i>Hi/i, Hu/u</i>
after consonant	Ch. IX.	<i>CHV</i>
	Ch. X.	<i>CHC</i>
	Ch. XI.	<i>RH</i> (the disyllabic roots)

Chapter VIII can of course be divided among VI, VII, IX and X, but as these cases occur of one stem, it seemed more desirable to take them quite separately. Chapter XI, too, may be divided among the four chapters mentioned, but here the same applies as for VIII, while moreover in this case *r l ʔ n ʔ* followed by laryngeal display a special development.

At the end in a separate chapter (XII) the material is presented where an inter-consonantal laryngeal seems to be lost.

VI. AFTER VOWEL BEFORE CONSONANT

As the vocalic sonants *r l ŋ ŋ* followed by laryngeal display special developments, they will be discussed in a separate chapter (XI). Here therefore only *e, o* and *i, u* plus laryngeal are to be discussed.

One of the fundamental ideas of the laryngeal theory is that the long vowels assumed for the proto-language which are not based on contraction or on lengthening developed from short vowel followed by laryngeal; see the Introduction, p. 8. This process may best be described as follows: when the laryngeal disappeared after short vowel before consonant, the length of the syllable originally closed by the laryngeal was maintained by lengthening of the vowel; before then *e* had been coloured to *a* and *o* by *h₂* and *h₃* respectively. After the disappearance of the laryngeals these sounds were preserved and thus became independent phonemes; the timbre of the (ablaut) *o* was not changed by the laryngeals. One therefore finds:

$$\begin{array}{lll} eh_1 > \bar{e} & eh_2 > \bar{a} & eh_3 > \bar{o} \\ oh_1 > \bar{o} & oh_2 > \bar{o} & oh_3 > \bar{o}^{78} \end{array}$$

The colouring by *h₂* and *h₃* evidently took place in the proto-language, since the opposition between the three long vowels (*ē : ā : ō*) in different languages (Armenian, Greek, Latin, Albanian, Lithuanian) corresponds exactly.

More difficult is the question when the laryngeal disappeared from this position. It seems to me that the laryngeal was preserved down to the separate languages, for two reasons.

Firstly, the development of vocalic sonant (*r l ŋ ŋ*) plus laryngeal (Skt. *īr, ā, Lat. rā, nā*) is best explained by assuming that in this case the laryngeal was preserved down to the separate languages, an assumption that is also necessary for an explanation of the Greek development (ρη, *pā*, ρω etc.; Chapter XI). True, in the above the vocalic sonant was expressly exempted from this discussion, and it is conceivable that the laryngeal was preserved here for a longer period of time, but this cannot be rendered

⁷⁸ Even when the preceding vowel was already long (*ēh*) a long vowel naturally developed. As regards the colouring, *oh* could hardly become anything but *ō*, and *eh₁* had to become *ē*. In the case of *eh₂* and *eh₃* one could doubt whether *ā* and *ō* also developed here. The cases will have been few. The only possible case that I know is the basic form of ἠώς, *aurora*; these point in the first instance to **āusōs*, which could go back to **ēh₂usōs* or **h₂ēusōs*, for it is difficult to assume that **eh₂us-* would have given **āus-*.

probable. In PIE $r̥n$ were vowels like e and i and it cannot be seen why the laryngeal in eHC , iHC should have disappeared before that in $r̥HC$.

Secondly, the compositional shortening in Sanskrit indicates that in that language the laryngeal was still present in this position: $súṣuti$ - 'easy birth' as against $sútave$, which could be interpreted as vocalic shortening, but $carkṛtī$: $kīrtī$ -, which with vocalic shortening would have given $*carkīrtī$ -, can be understood only as $-kṛḥti$ > $-kṛti$ -, so that $súṣuti$ will also have to be explained in this way (Kuiper, *Die Sprache* 7.14-31; for further details of this shortening see p. 204 and p. 242 ff.).

This conclusion seems to be confirmed by Hitt. $pa-aḥ-ḥa-aš-mi$ [$paḥḥsmi$] 'to protect', root $*pā$ - < $*peḥ_2$ -, with $ḥḥ$ from $ḥ_2$. If $*peḥ_2$ > $*paḥ_2$ - had already become $pā$ - in PIE, Hitt. $ḥḥ$ would not be explicable. See Hendriksen, *Unters.*, p. 31.

Here too it may be asked whether there are indications of a third, o -colouring laryngeal. More important arguments for this can be found elsewhere (see Conclusions, p. 265 f.). Here the following may be remarked.

Just as it has been wondered whether a non-apophonic $ō$ existed, the same may be done for $ō$. For it is striking that some widespread roots, such as $*pō$ - 'to drink' and $*dō$ - 'to give', never display an e -phase (i.e. either $ē$ (eh_1), or $ā$ (eh_2)). This consideration has of course the weakness of every argument *e silentio*. For it is possible to explain any $ō$ by $o + h$ (cf. Introduction, p. 4, on Pedersen). Thus for instance $*gnō$ - in γινώσκω γνωτός, Lat. (g) $nōsco$ (g) $nōtus$, Skt. $jñātā$ -, OCS $znati$, where OE $cnāwan$ ($cnēow$), OHG $knāu$ point to $*gnē$ -, so that one must start from $ḡneh_1$ -/ḡnoh₁-. The zero grade of this root is found in Lith. $pa-žintas$ 'known', Lat. $gnārus$ < $*ḡnh_1-ro$ - (instead of assuming $*ḡnā$ - as apophonic form of $*ḡnē$ -, like WH s.v.), the full grade I in Lith. $ženklas$ 'sign' < $*ḡenh_1-tlo$ -. The form $*ḡnoh_1$ - was therefore probably separated at an early stage from the original whole; hence (g) $nōtus$ $jñātā$ - < $*ḡnō-tó$ with full grade instead of $*(g)nātus$ $*jātā$ - < $*ḡnh_1-tó$ -, with the zero grade normal for this form. It must also be admitted that the number of forms with 'non-apophonic' $ō$ is only small.

One also finds $ō$ in forms where one would expect e -vocalism. For instance δίδωμι beside τίθημι ἵσταμι. The e -phase is also normal in Lat. $pōculum$, Skt. $pātram$ < $*pō-tlom$ /- $trom$.

A good argument in my opinion is found in Attic reduplication. But the difficulty in practice is that there are few cases with o - $ω$: ὀμώμοται and ὀωπέχεται (p. 119). Here the 'prothetic vowel' in ὀπέγω demonstrates a h_3 , and the second syllable displays the lengthening discussed here after the disappearance of the laryngeal, $ω$ < $e-h_3$, $*h_3me-h_3m$ - > ὀμωμ-. However, it is the question whether these forms are old. (The Attic reduplication of monosyllabic roots like ὄπωπα I consider to be analogic; p. 121.)

Whilst for oh_3 another result than $ō$ is not to be expected and oh_1 > $ō$ is, as far as I know, undisputed (e.g. θωμός A., Ar. from $*dheh_1$ -in τίθημι), the situation with

oh_2 is different. True, here — as so frequently — indisputable examples are rare, but in my opinion there are sufficient indications to allow of a conclusion. Everything suggests that here too the timbre of the o was not affected, any more than in the group h_2o , see p. 128. Consequently I do not see on what Kuryłowicz bases his supposition that oh_2 became \bar{a} (*Apophonie*, p. 173 *et passim*). For it is clear that in this supposition the ablaut \bar{a}/\bar{o} cannot be explained (cf. the parallel problem of \bar{a}/\bar{o} if one assumes $h_2o > a$, p. 128). He therefore assumes (*ibid.*, p. 186) that here the zero grade $\bar{a} > a$ of \bar{e} , \bar{a} and \bar{o} was the starting-point for new forms with \bar{o} , $\phi\eta\mu\acute{\iota} \rightarrow \phi\acute{\alpha}\mu\acute{\epsilon}\nu$ $\phi\acute{\alpha}\tau\acute{o}\varsigma$ $\phi\acute{\alpha}\sigma\iota\varsigma \rightarrow \phi\omega\nu\acute{\eta}$. However, this is impossible. In PIE h_1 h_2 h_3 were at first the zero grade of eh_1 eh_2 eh_3 respectively. In Greek, as has been demonstrated above (p. 70 ff.) and as will be shown on p. 182 ff, these became ϵ α o (which Kuryłowicz rejects). It follows from this that in the zero grade the opposition between the three laryngeals was preserved down to the separate languages and was never lost in Greek. Here, in Greek, a secondary \bar{o} (ω) based on $a < \bar{a}$, as meant by Kuryłowicz, is therefore excluded. The relation ω - $\bar{\alpha}$ ($\phi\omega\nu\acute{\eta}$ - $\phi\acute{\alpha}\sigma\iota\varsigma$) does exist, but only as $oh_2 > \omega : h_2 > \bar{\alpha}$. In Kuryłowicz' reasoning one therefore has

PIE $eh_1/oh_1/\bar{a}$ $eh_2/oh_2/\bar{a}$ $eh_3/oh_3/\bar{a}$ — Gr. $\eta/\omega/\bar{\alpha}$ $\bar{a}/\bar{\alpha}/\bar{\alpha}$ $\omega/\omega/\bar{\alpha}$.

Here we twice find $\omega/\bar{\alpha}$. In my opinion this is incorrect, since h_1 became ϵ and $h_3 > o$, so that — if one adheres to Kuryłowicz' $oh_2 > \bar{a}$ — the result is:

PIE $eh_1/oh_1/h_1$ $eh_2/oh_2/h_2$ $eh_3/oh_3/h_3$ — Gr. $\eta/\omega/\epsilon$ $\bar{a}/\bar{\alpha}/\bar{\alpha}$ $\omega/\omega/o$,

in which $\omega/\bar{\alpha}$ does not occur.

Apart from these considerations, such a series of analogic formations is improbable. (This objection applies to the whole — more recent — view held by Kuryłowicz, who postulates so extensive a system of analogic transformations that these can no longer be accepted; cf. p. 206, 212.)

The following may be mentioned as indications of $oh_2 > \bar{o}$:

With the stem $\beta\bar{a}$ - of $\xi\beta\eta\nu$ belongs $\beta\omega\mu\acute{o}\varsigma$, $*g^uoh_2-mos$; for the o -vocalism cf. $\theta\omega\mu\acute{o}\varsigma$ *supra* and for instance $\delta\gamma\mu\acute{o}\varsigma$ from $*h_2o\gamma mos$, p. 128.

Mention was already made above of $\phi\omega\nu\acute{\eta}$ from $\phi\bar{\alpha}\mu\acute{\iota}$, $*bho\bar{h}_2-n\bar{a}$. For the old o -vocalism cf. $\pi\omega\nu\acute{\eta}$, Av. *kaēnā*, OCS *cěna* from PIE $*k^uoi-n\bar{a}$. However, a different analysis was defended by Cuny, *Mélanges Boisacq* 1 (1937) 227-331: it contains the suffix $-on\bar{a}$ and $*bhe\bar{h}_2-ona$ became $*bha(h_2)on\bar{a} > \phi\omega\nu\acute{\eta}$. However, this suffix (Schwyzer, p. 490) occurs in the names of implements ($\delta\theta\acute{o}\nu\eta$, $\sigma\phi\epsilon\nu\delta\acute{o}\nu\eta$, $\beta\epsilon\lambda\acute{o}\nu\eta$, $\pi\epsilon\rho\acute{o}\nu\eta$) and in abstracts ($\acute{\eta}\delta\acute{o}\nu\eta$, $\alpha\upsilon\delta\acute{o}\nu\eta$; Skt. *svādāna*- does not contain an element $-on-$, since this would have given $-ān-$). $\phi\omega\nu\acute{\eta}$ could belong to the first group, although these seem to be words of non-IE origin (cf. the difference in accent with the second group and with $\phi\omega\nu\acute{\eta}$). However, if one starts from $*bhe\bar{h}_2-ona$, the evidence remains practically the same, for, if it is assumed that h_2 coloured an adjoining o to a , one gets $*bha\bar{h}_2an\bar{a} > *φ\bar{a}ν\bar{a}$. (As stated above, the problem of the development of h_2o is in principle the same as that of oh_2 .) In that case one could postulate a recent formation; as $*φ\bar{a}-on\bar{a}$ in Doric would have given $*φ\bar{a}ν\bar{a}$ (Lejeune, *Traité*, p. 235), only $*φ\bar{a}-on\bar{a}$ could then still be considered. Consequently, of greater importance here than $\phi\omega\nu\acute{\eta}$

is φωνέω, which is not derived from φωνή (cf. Schwyzler, p. 720 n. 10). It will be a denominative, but then derived from a stem φωνε/o-, which was lost in later Greek; this points to great age for the stem φων-, and makes it improbable that it contains an element -on- (-one/o- beside -onā is very rare: only the in my opinion dubious cases θρόνος κλόνος χρόνος, Schwyzler, p. 490,5). (*Bho \bar{h}_2 -nā is now also given by Chantraine, *Morph.*², p. 6.)

The word for 'ear', which in part has o-vocalism (οὔς, ὠς) and in part a-vocalism (Lat. *auris*), seems to me to be a clear case. If the interchange ou/au is not automatically accepted for the proto-language one has to start from basic forms like *o \bar{h}_2 us- (nom.), e \bar{h}_2 us- (or * \bar{h}_2 ous-, \bar{h}_2 eus-; perhaps with long o; for e/o in a neutral word cf. γόνυ: Lat., Hitt. *genu*) and assume that the \bar{h}_2 did not change the timbre of the o. Ruijgh, who does not do the latter, is obliged to consider the existence of two different roots, * \bar{h}_2 eu- and * \bar{h}_3 eu- (*Etudes*, p. 58 n. 54).

Ἄκωκή may also contain o \bar{h}_2 ; see p. 125 f.

Another case in which one cannot accept Kuryłowicz' explanation by means of analogy is the root *pā-/pō- 'to protect': Lat. *pāscō pāstor pābulum*, Hitt. *pa-aḫ-ḫa-aš-mi* [*paḫḫšmi*], Goth. *fodjan* — πῶς ποιήν (cf. πατέομαι, Frisk s.v.).

Other forms cited from Greek are θήγω (θάγω) — τέθωκεται τεθύμωται and τεθωγμένοι beside τεθαγμένοι. (If these forms are old, the ω must have been introduced from elsewhere, since in the middle one expects zero grade.) Cf. Frisk s.v. *θώσσω.

The analysis of the ending 1 sg. pres. of the thematic verbs -ō as -o- \bar{h}_2 , with \bar{h}_2 identical with that in 1 sg. perf. -a < - \bar{h}_2 -e and 1 sg. midd. -ai < - \bar{h}_2 ei also fits into this picture; see p. 133. See Add.

To demonstrate laryngeal after vowel by means of Greek material on other grounds than the compensatory lengthening discussed here is possible in only a few cases, if we leave the type *dhe \bar{h}_1 -/dh \bar{h}_1 - out of consideration. For Indian the explanation of the (t)h in *tī-ṣṭh-ati* by the laryngeal from the root *ste \bar{h}_2 - in *sti-st \bar{h}_2 -eti may be recalled here.

In the present reduplication one finds lengthening of the i, Skt. *īyarti* : *īrte* from * \bar{h}_3 i- \bar{h}_3 erti : * \bar{h}_3 i- \bar{h}_3 rtoi,⁷⁹ *ājati* : *ījati*. An example of this is found in Greek in *ιάπτω* : **ἴπτομαι*. More of a problem is formed by *ἱχανάω* (Hom.), Skt. *īhate* 'to crave, yearn'; the cognate *ἄχην* (Theocr., *ἄχηνία* A.) 'poor', Av. *āzi* 'craving' will go back to * \bar{h}_2 e \bar{h}_2 g \bar{h} - and therefore *īhate* will go back to * \bar{h}_1 h \bar{h}_2 g \bar{h} -. See p. 129.

The stem *ὀπιπ-* seems to go back to *opi- \bar{h}_3 k u -, ἐνίπη to *eni- \bar{h}_2 k u - (p. 129).

The lengthening in Attic reduplication was already mentioned above (*ἐληλουθ- < * \bar{h}_1 le- \bar{h}_1 loudh-).

A category that was not yet discussed earlier is the augment in words that have 'prothetic vowel', such as *ἦειδε ἦριπε* from e-HC-. The fact that a PIE basic form

⁷⁹ This form would perhaps have given **hih \bar{h}_1 rtoi* > **iy \bar{r} te*. In that case the *ī* will stem from the 3 pl., **hih \bar{h}_1 r \bar{h}_1 toi* > *irate* (for the structure cf. **dh \bar{h}_1 g \bar{h}_1 tós* > *ἑνῆτός*, not **dhun \bar{h}_1 tós*).

is concerned here is demonstrated by Sanskrit, e.g. *ānaṭ*, from the root *naś-*, from **e- \check{h}_1 nek-t*.

From the stem **bhū-* one finds du. *ἔφϋτον*, Skt. *ābhūtam*, where the laryngeal is evident from the disyllabic root in Skt. *bhāvitum*, **bheuh-/bhuh-*.

In this way disyllabic root is demonstrated for *θϋμός* by Skt. *do-dhavī-ti*, *dhavītram*. See p. 186. Hitt. *tuhhuwai-* 'smoke' etc. probably belongs with this (Friedrich, *Erg.h.*, p. 2 s.v.).

Πῖαρ, *πίερα*, Skt. *pīvarī* seems to go back to **pih-u-er-*, of which the full grade **pei-h-* is perhaps found in Skt. *páyate* 'to be blown up', and the stem II **pi-eh-* in *pyáyate*. The zero grade *pipyúšī* < **pi-pih-us-ih₂* would have had to have lost the laryngeal in compounds.

In the latter cases one is therefore concerned with the zero grade of disyllabic roots with *i*, *u* as second consonant; those with *r* *l* *ŋ* *ʷ* (zero *CRHC*) are discussed in Chapter XI.

An example from declension is the genitive of the *ja*-stems. This is the type *ὀρόγυια* **ὀργυιάς* (p. 37), Skt. *devī devyāḥ*, of which the ending must have been nom. *-i- \check{h}_2* , gen. *-i- $\acute{e}\check{h}_2$ -s*.⁸⁰

Another case of lengthening is the nominative of the type *γλωχίς*, of which the ending *-ίς* will go back to *-ih₂-s*.

Reference should also be made here to all stem II forms of the disyllabic roots (*TReH*), for which I refer to Chapter XI.

Finally, attention should be drawn to the fact that the development of *-e/o \check{h}* at the end of the word to long vowel is based on the principle discussed here; see for this p. 145f.

⁸⁰ The genitive here must therefore originally have had an acute accent, *-ᾶς*, unlike the circumflex of the *ā*-stems, see p. 170; usually one reconstructs a circumflex here, e.g. Pedersen, *Cinq. décl.*, p. 30.

VII. BETWEEN VOWELS

Intervocally the laryngeal was lost, as everywhere else. Indo-Iranian forms in which the hiatus has been preserved demonstrate that this did not happen until the separate languages; see the Introduction, p. 9f.

As regards the colouring by the laryngeals, the same rules apply as stated in the previous chapter. Cf. δαιτ- < *deh₂i-t-, p. 175, ποιμήν < *poḥ₂imén, p. 168.

The most frequent and clearest cases of intervocalic laryngeal are those where the laryngeal stands before *i* or *u*, which are dealt with separately in the following chapter.

It may also be asked here what happened to the group -eh₂se-. It has been demonstrated above that the laryngeal colours both preceding and following *e*. It is therefore plausible that here both were coloured, but it is equally possible that the colouring was confined to the tautosyllabic, i.e. following *e*. A case where this situation occurs is the declension of the *ā*-stems. The development of the genitive here may be imagined as follows:

- (a) -éh₂-es > -áh₂as > -áas > -ās

But allowance must also be made for the following possibilities:

- (b) -éh₂-es > -áh₂es > -áes > -ās

- (c) -éh₂-es > -éh₂as > -éas > -ās

However, it should be borne in mind that, as the laryngeal was preserved intervocalically until after the division of the proto-language, the development from the second to the third phase (in each of the lines of development stated) took place in the separate languages. Now, since in all cases the result of the contraction is the same (-ās), it is more probable that -áh₂as was the starting-point, since *ae* or *ea* did not necessarily become *ā* everywhere. (This may be doubted for Greek, for instance; cf. Lejeune, *Traité*, pp. 233-6, although these contractions are probably more recent.)

The question of the so-called temporal augment should also be raised here. In the case of verbs that began with *a*, this goes back to h₂e- (p. 133 ff.), so that the augment form here (for instance) was *é-h₂eġ-om. On the strength of the consideration stated above, one may therefore assume PIE *áh₂aġom > Gr. áagon > ἄγον. In present stem forms and aorists *o*- will be mostly based on h₃e-, so that for instance ὤμοσα, Skt. āmīt, PIE *é-h₃emh₃- > *oh₃omh₃- may be reconstructed. (Verbs with h₁e- or *e*- present no problems, since something other than ē- < é(h₁)e- is not imaginable.) In Indian one would expect traces of āā-, which are not frequent, however.

Where *i-* is present reduplication, this probably developed from *hi-h-*, e.g. $\lambda\acute{\alpha}\upsilon\omega < *h_2i-h_2eu-$. There is no trace of the forms $*\acute{e}-h_2i-h_2eu- > *ah_2ih_2au- >$ (Gr.) $*ajau-$ (with h_1 and h_3 *ei* and *oi-*) to be expected. Greek has $\bar{\iota}$ - here, as in forms with ι - of a different origin as well as $\bar{\upsilon}$ - from υ -, $\lambda\acute{\alpha}\iota\nu\epsilon\tau\omicron$ ($*is-$?), $\bar{\upsilon}\phi\eta\nu\alpha$. This $\bar{\iota}$ $\bar{\upsilon}$ must therefore have arisen on the analogy of the above-mentioned forms with long vowel from contraction (Schwyzer, p. 654f.). Here Indian has *ai au* (*ácchat* from *icchāti*, *áunat* from *unátti*, *árdhnot* from *rdhnóti*), of which the origin is not entirely clear; it would have to be further investigated whether the laryngeal is responsible for these forms of augment.

A rather complicated case is the genitive of $\pi\lambda\eta\theta\acute{\upsilon}\varsigma$. On the strength of the comparison with Lat. *plēbēs* (Pedersen, *Cinq. décl.*, p. 62f.), the original paradigm may be reconstructed as follows (Kuiper, *Notes*, p. 12-9):

sg. nom.	$*pleh_1dh-u-\acute{e}h_1-s$
acc.	$u-\acute{e}h_1-m$
gen.	$u-h_1-\acute{o}s$
pl. loc.	$u-h_1-sú$
instr.	$u-h_1-bhís$.

In the genitive the laryngeal therefore fell intervocalically. In the nominative the weak stem before consonant, $-u-h_1-C > -\bar{u}C$, was introduced in Greek; in Latin the full grade stem, $-u-eh_1-C > -(u)\bar{e}C$, was generalized.

Another example from declension is the genitive of $\delta\omicron\phi\rho\acute{\upsilon}\varsigma$, of which the declension was $*h_3bhréuhs$ $*h_3bhréuhm$ $*h_3bhruhós$ $*h_3bhruhsú$ (Kuiper, *Notes*, p. 9).

Cowgill (p. 147) states as example $\pi\lambda\epsilon\acute{\iota}\sigma\tau\omicron\varsigma < *pleh_1-istos$. However, in that case this would have the full grade from the comparative, instead of the expected zero, $*p\bar{h}_1-istos$, which would have given $*πελίστος$. See p. 174.

It is not clear whether $\lambda\acute{\upsilon}\omega$ originally had a laryngeal: $\beta\omicron\upsilon\lambda\bar{\upsilon}\tau\acute{o}\varsigma$, Lat. *solūtus* (Skt. *lunāti*, 'to cut off, destroy', *lavitra-*?). The short vowel in present and imperfect may have developed antevocalically, but the forms $\acute{\epsilon}\lambda\bar{\upsilon}\mu\eta\nu$ $\lambda\bar{\upsilon}\tau\omicron$ seem old. Although the term appears old, the υ may be long in $\beta\omicron\upsilon\lambda\upsilon\tau\acute{o}\nu\delta\epsilon$ (II 779 = ι 58) for the sake of the metre.

Cowgill is of the opinion that the adjectives ending in $-a\acute{o}\varsigma$ from substantives ending in $-ā$ may be explained as $-eh_2-i\bar{i}o- > -ai\bar{i}o-$. But after eh_2 one would expect $\bar{i}o$ (and not $i\bar{i}o$). It is also the question whether the origin of this form must be sought in PIE. I do not see that the laryngeal theory offers new possibilities here. (For the problem see Schwyzler, p. 467, Lejeune, *Traité*, p. 145f., Buck-Petersen, *Reverse Index*, p. 44f., with lit.).⁸¹

There are two further special groups that belong to this category, viz. those with vocalic sonant r l η η before or after the laryngeal.

A case of VHR could be the imperfect of $\delta\rho\nu\mu\iota$, $*\acute{e}-h_3r-n-u-to$. However, here no

⁸¹ Ruijgh, *Etudes*, p. 212, assumes $-eh_2i\bar{o}- > -ayyo- > -aio-$, but does not explain the development $-eh_2i\bar{o}- > -ayyo-$ for the expected $-āi\bar{o}-$.

conclusion may be drawn from ὄρνυτο with regard to the phonetic development, for this augment form may have been taken over from the aorist (**e-h₃er-*). In my opinion one might expect *eh₃r* > *oh₃r* > Gr. *oh₃or* > *oor* > *ōr*, ωρ. I do not know another case with this sequence. In Indian one has **h₃i-h₃rtoi* > *īrte*, where one could also expect **h₃i-h₃r-toi* > **iy₁rte*; however, here too an explanation by analogy is possible (see p. 168).

If the preceding vowel was *r* *l* *ŋ* *ŋ*, a special development took place, which will be discussed under the disyllabic roots in Chapter XI.

Double laryngeal disappeared intervocalically without trace. This formation may be supposed for the perfect of stems ending in laryngeal, e.g. **h₃me-h₃mo3-h₂e*, a form that would have given *ὀμωμοα (> *ὀμωμω, cf. δέιδω < *δε-δ₁o-ja) and was replaced by a κ-perfect. Sturtevant's idea that the κ developed from *h₂* is untenable; cf. Cowgill, p. 175 ff.

VIII. BEFORE *i/i*, *u/u*

If a laryngeal was followed by *i* or *u*, it depended on the further structure of the word whether that *i*, *u* functioned as a vowel or as a consonant. The same may occur in principle with *r l m n*, but I know no cases of this except those mentioned at the end of chapter VII, while *i* and *u* often occurred as enlargement of roots, also of roots ending in laryngeal.

This possibility of two different developments has been mentioned by Kuryłowicz, *Etudes*, p. 36 ff., e.g. Skt. *stāyú-* : *stendá-* from PIE **steḥ₂iú-* : **steḥ₂i-no-*.

The clearest case is presented by the root **pā-/pō-* 'to protect', **peḥ₂-/poḥ₂-*, from which one has ποιμήν < **poḥ₂i-mén* as against Skt. *pāyú-* 'guard, protector', πῶϋ < **poḥ₂i-u*. The non-enlarged root is found in Hitt. *pa-aḥ-ḥa-aš-zi* [*paḥḥšzi*] 'to protect' and Lat. *pāscō pāstor pābulum*. True, Gr. ποιμήν could also have developed from **πωιμήν*, but the *ō(ω)* could only be explained by the improbable structure **poḥ₂iṃén*.

If *āi* in Skt. *stāyú-* *pāyú-* is to be regarded as a long diphthong,⁸² this should be strictly differentiated from the two other forms of long diphthong (as does Kuryłowicz, *Etudes*, p. 40), viz. that from lengthening and that from contraction. An example of the latter is the dative singular of the *o*-stems ending probably in *-o-ei* > *-ōi*. A lengthened diphthong may be seen for instance in the nominative singular **Dīēus*. One therefore has long diphthong:

- (1) from contraction e.g. dat. sg. *o*-st., *-o-ei* > *-ōi*;
- (2) by lengthening e.g. nom. sg. **Dīēus*;
sigm. aor. **é-lēik^u-s-ṇi* > Skt. *árāikṣam*;
- (3) through laryngeal e.g. *eḥ₂i-V* > (in sep. languages) *āi-V*.

It is in this light that the rule that long diphthong before consonant, i.e. phonetically, loses its diphthongal element in PIE and becomes a long vowel must be seen. The last group of 'long diphthongs', which were the result of laryngeal, therefore do not occur before consonant as such, for they become — phonetically — short diphthongs (ποιμήν). And yet the rule is based for a part on these roots, owing to the fact that the enlarged roots before vowel (*eḥ₂i-V* > *āiV*) were compared with the non-enlarged roots before consonant (*-eḥ₂C* > *-āC*). Strangely enough, this again is not found sharply enough in Kuryłowicz, *Apophonie*, p. 257, where he states that it is 'plutôt

⁸² The definition of diphthong is not very clear-cut. See for the whole problem Meillet, *Introd.*⁸, pp. 105-25, in particular p. 110.

probable' that $\pi\omega\mu\alpha$ is the full grade without *i*-enlargement. For Gr. $\pi\omega\mu\alpha$ cannot come from $*p\tilde{o}i-$, $*peh_3i-$, since this would have become $*\pi\omega\mu\alpha$. PIE loss of the *i* in $*peh_3-i-m-$ is refuted by the type $\pi\omega\mu\eta\nu$.

That the second category of long diphthongs was preserved down to the separate languages is demonstrated by the examples given, Skt. *Dyáuḥ* (Ζεύς shortened from $*Z\eta\upsilon\varsigma$ in accordance with Osthoff's Law, Lejeune, *Traité*, pp. 188 f.). The accusative of this same word, Skt. *Dyám*, Lat. *diem*, Ζῆν (see p. 150)⁸³ suggests PIE $*D\tilde{i}em$, which will have arisen from $*D\tilde{i}éum$ (with dissimilation in $-\tilde{e}um$); $*D\tilde{i}éum$ itself stands, after the nominative, for the $*D\tilde{i}éum$ that would be expected.⁸⁴

The first group usually retains the diphthongal element too. The rule therefore has no general validity, but relates only to a few special cases.

The following forms are known of these roots (with for instance h_2):

$(eh_2 > \bar{a}C$	$\check{a}V$	\check{h}_2	$C - C: = \varnothing$	$C - V: \text{zero}$
$eh_2i > \bar{a}iV$	$\check{a}iC$	\check{h}_2i	$C - C: i$	$C - V: i$

Reference has already been made (p. 170) to the cognates of $\delta\alpha\iota\omicron\mu\alpha\iota$: Skt. *dāti-*, *dití-* < $*d\tilde{h}ti-$, *dyāti* < $*d\tilde{h}i\tilde{o}-$ or $*d\tilde{h}i\tilde{o}-$; for $\delta\alpha\iota\omicron\mu\alpha\iota$ itself see below. It is the question whether $*d\tilde{i}-$ in Arm. *ti*, ON *tíme* 'hour, time' belongs here; this might be based on $*d\tilde{h}i-C > di\tilde{h}-C$, see below.

Πλέων πλέον is based on $*pleh_1-is-on$ (like $\pi\lambda\epsilon\iota\sigma\tau\omicron\varsigma$ < $*pleh_1-is-to-$, of which the *ei* stems from $\pi\lambda\epsilon\iota\omega\upsilon\upsilon\pi$, see p. 171). Cf. Skt. *prāyas-* < $*pleh_1i\tilde{o}s-$, and *dēṣṭha-* with disyllabic *e* from $*deh_3is-$; cf. the Introduction, p. 10. In Hom. $\pi\lambda\epsilon\iota\omicron\varsigma$ (for $\pi\lambda\eta\eta\varsigma$), Att. $\pi\lambda\epsilon\omega\varsigma$, Arm. *li*, Skt. *prāyaḥ* 'mostly' we have $*pleh_1-i\tilde{o}-$. The stem is that of $*pelh_1-/pleh_1-$ 'to fill' ($\pi\lambda\eta\eta\tau\omicron$, $\pi\lambda\eta\eta\upsilon\varsigma$, Lat. *plēbēs*, *plētus* etc.).

Beside $\vartheta\omega\sigma\theta\alpha\iota$ etc. (Frisk; formation unclear) $\vartheta\omicron\iota\eta\eta$ may go back to $*dheh_3i-$.

A separate problem is formed by the zero grade of these roots with *i*-enlargement, where one finds \bar{i} . As one would expect that in $ChiC$ the laryngeal would disappear without lengthening (see the following section), metathesis of \check{h} and i has been assumed here, as by Hammerich, *Lar. b. Son.*, p. 35. This solution is a dangerous one: the explanation given by Hammerich of Skt. *pūrṇá-* (from $*p\check{h}h_1r\tilde{n}a-$ < $*p\check{r}h_1na-$ < $*p\check{r}h_1no-$) and *ásrk*, *yákr̥t* (p. 37 ff.) already takes this principle too far. Even less happy seems to me the idea of Frei (*Cahiers Ferd. de Saussure* 16 (1958-9) 9 n. 35) that (for instance) $*p\tilde{i}-$ (from $*p\tilde{o}-$, $*peh_3-$ 'to drink') does not go back to $*p\check{h}i-$ but to the non-enlarged root $*ph_3-$, after which an 'i de liaison' appeared between the laryngeal and following consonant ($*ph_3-i-C$), which with metathesis gave $*pih_3- > *p\tilde{i}-$. Apart from the fact that one would also expect such an *i* elsewhere, one would in that case have to explain the \bar{u} as zero grade of $\tilde{e}u$, $\tilde{e}hu$ by an 'u de liaison'. Here too metathesis is assumed.

This metathesis is not immediately convincing. It is not clear why before *e/o* the

⁸³ The original accent of $*D\tilde{i}éum$ will, as in the nominative $*D\tilde{i}éus$, have been an acute one. The circumflex in Greek is a result of the addition of the $-\alpha$: $*Z\eta\upsilon > Ζῆνα$.

⁸⁴ Cf. the discussion in Kuiper, *Notes*, pp. 38 f. and 68-70.

laryngeal would fall, but before *i* (and *u*) metathesis would occur. The difference in articulation could therefore be the sole cause of this, but one would like to find indications of such a phenomenon elsewhere. It can only be stated that the lengthening (in the *ī*) and the fact that *ī* does not seem to occur before vowel point to a group *-ih-C*. For the moment another solution is not known. It cannot be denied that there is a difficulty here, but I do not see that the old solution (Schulze's *ai* > *ī*) is better, as for instance Leumann (*Mus. Helv.* 14 (1957) 75 = *Kl. Schr.*, p. 260 n. 2) suggests. For, according to the old shwa theory, *a* would in all situations have become *a*, also in *ai* before vowel (even in Indian, where *a* normally became *i*; see below). There is no reason why *a* in *ai* before consonant would have become *i*. Here too an auxiliary hypothesis is therefore necessary, which finds no support elsewhere. (Moreover, the idea would fit straightaway into the laryngeal theory: *CḥiC* > *CiiC* > *CīC*.) However, the essential thing is that the laryngeal theory has pointed to the predominantly consonantal character of the *a*; it is therefore improbable that the laryngeal, which even interconsonantly did not always become a vowel, was vocalic in these surroundings (*CḥiC*).

A clear case is the root **dhē-* 'to suck, give suck', **dheh₁-(i-)*; **dheh₁-C*: Gr. θήλυς θηλή, Skt. *dhārú-*, Lat. *fēlare* (*fīlius*), Lith. *dėlė* 'bloodsucker' etc.; **dheh₁-i-C*: Skt. *dhenú-* 'milking', *dhenā* 'milch cow'; **dhī-*: Skt. *dhītá-*, Latv. *dīle* 'sucking calf'. Apart from the last one the following forms also present problems here: **dhi-* OHG *tila* 'woman's breast', Mir. *del* 'nipple'. This could continue **dh₁ī-i-* > **dht-*, but that would be in contradiction of the explanation given above of **dhī-*. Finally there is **dhāi-* (?) in Skt. *dháyati*, OCS *dojō*, Goth. *daddjan*. The δαίομαι mentioned above belongs to the same category. The form **dai-* of this can be explained in two ways: as **deh₂i-* (but in that case only before consonant, from which it could then have spread further) and as **dh₂ei-* (Kuryłowicz, *Etudes*, p. 65). A form **dhāi-* of **dheh₁-*, however, cannot be explained in that way, but *dojō daddjan* may go back to **dh₁oi-je-*; the vocalism of *dháyati* is unknown (so that **dh₁ei-* is possible). Such problems must be considered morphologically from case to case. The old explanation **dh₁i-* > **dhāi-* (in terms of the laryngeal theory **dh₁ī-*) should be rejected, since in this position the laryngeal was probably not vocalic. This emerges from forms such as Skt. *dyāti* 'to share', *syāti* 'to tie', from **dh₁-je-*, **sh-je-*, Kuryłowicz, *op. cit.*, p. 64; cf. for the latter form Hitt. *ish₁ianzi* (p. 86).⁸⁵ Moreover, this would also presuppose *ḥ* (*a*) > *a* for Indian, which does not have much support.

The long *i* is also found in the root of οἶδον 'ploughed furrow' (**seh₃ir-*): Skt. *śtra-* 'plough', *śtā* 'furrow' (**sh₃i-* > **sih₃-* ?).

The best-known case is the root **pō-(i-)* 'to drink', **peh₃-(i-)*. This form occurs only in Skt. *pāy-áyati* ('to cause to drink'). In addition one finds the non-enlarged root **peh₃-*, πῶμα, Lith. *puotà* 'drinking-bout', Lat. *pōtus*, *pōculum*, Skt. *pātram pātár-*. As the zero grade we find **pī-*, Skt. *pītá-* *pītí-*, OCS *piti*. The Greek forms have been

⁸⁵ Thus for Av. *xvāng* 'of the sun', having regard to ἡέλιος < **seh₂u-el-*, I would be more inclined to assume **sh₂u-ens* than **suh-ens*, as Kuiper does, *Notes*, p. 34, n. 2.

interpreted by Leumann (*loc. cit.*). Comparing the ablaut δω-/δο- from δίδωμι, he starts from an interchange *pō-/pī-, e.g. in the athematic aorist *e-pō-m (Skt. *apām*) : *e-pī-mes. It is assumed that these two stems can still be seen in Aeolic πῶσι : πῖσι. The thematic aorist ἔπιον is said to have had its starting-point in 3 pl. *e-pī-ent > *ἔπιεν. However, the reconstruction of this aorist seems to me to be based on too weak grounds. After all, parallel to δω-/δο- one cannot expect anything but (Gr.) πω-/πο- (*peh₃-/ph₃-; or, as *pō-/pā-, possibly πω-/πᾶ-). The interchange *pō-/pī- can only be explained by an original system *pōi-(pōi-)/pī-, but there is no indication of *pōi- in the aorist. Thus, if πῶσι/πῖσι does indicate such an aorist, the latter must itself already be secondary. The same problem occurs in the present forms. Parallel to δίδωμι, Leumann assumes *pipōmi *pipīmes, of which he asserts that Skt. *pibati* is the thematic transformation. However, this transformation usually proceeds from the 3 pl., which in this view would therefore have been *pi-pāi-enti, which in all languages would have become *pipaienti (possibly *pi-pāi-nti > *pipaṇti). It is clear that one must start from the root without i: *pi-peh₃-mi *pi-ph₃-mes 3 pl. *pi-ph₃-nti > *pibati*. In this way the *b* < *ph₃* is also explained. The correctness of this explanation is rendered probable by the Vedic forms:

	act.	midd.
3 sg.	<i>pāti</i> (< *pipāti?)	<i>pipīte</i>
3 pl.	<i>pibati</i>	<i>pibate/pipate</i>

The 3 sg. midd. must have been *pi-ph₃-toi > *pipīte; the long *i* is based on Indian lengthening, as in *punīte*. Here, therefore, the *p* did not become voiced, since *h₃* here did not stand before vowel but itself became vocalic.

The Sanskrit present forms thus point to *peh₃-/ph₃-, from which the transition to the thematic declension also becomes demonstrable. However, forms like *pītá*-, πῖσι must ultimately go back to *ph₃i-.

As stated, the original zero grade in *pō-, *peh₃- must have been *ph₃- i.e. in the European languages *pā-. There is no trace of this (for OCS *pojǫ* 'to cause to drink' cf. *dojǫ supra*). One therefore hesitates to take Gr. πω- for *ph₃- (e.g. Leumann, *loc. cit.*). And yet it would be easy to understand that an original European *pā- (< *ph₃-, *pā-) was replaced by *pō- (or *pī-), and Indian *pu- (< *ph₃-) by *pī- (< *pih₃- < *ph₃i-), and that *peh₃-/ph₃- was preserved only in Greek, where πω-/πο- (like δω-/δο-) conformed to the same ablaut scheme as ā/ǎ, η/ε. The forms with πω admit very well of this interpretation: ποτόν 'that which one drinks, drink' (ποτός 'drunk, for drinking', A., E.), πόσις 'drinking', ποτής 'drink' Il.; more recent πότος 'carousal' Cratin., X., πότιμος Hdt., Hp., ποτήριον inscr. ?700, Alc., Sapph., πότηρ 'drinking cup' E., πότις (πότης) 'drinker' Phryn. (Ar.); πόμα Pi. N. 3.79, Hdt., Hp. for πῶμα A., S., E. For the oldest stage πῖνον 'liquor' Arist. and πίστρω 'drinking trough' E. are not of importance in my opinion. These data indicate that ποτόν (ποτός) was the starting-point of a number of derivations and that ποτός and πόσις were the oldest forms of this group (still including οἶνοποτάζω Il.); πω- became

characteristic of the nominal forms and even *πῶμα*, the only Greek word with *πω-* as against Skt. *pātár- pātram pānam*, was replaced by *πόμα*. In these two forms zero grade is normal and if *ποτός* (*πόσις*) is compared with *pītá-* (*pīti-*), Lat. *pōtus*, Lith. *puotà*, it seems probable that *ποτός* continues an original **ph₃tó-*, which was replaced elsewhere by *ī* (for *ĩ*, or *u*) and *ō* (for *ǎ*) respectively. There is little to be said about the age of forms like *ἐπόθην* A., *πεπόσθαι* Thgn. (and *πέπωκα* A.). They could have been built on *ποτός*. In this form *πέπωκα* is a Greek creation, having regard to the *κ*.

Πῖθι Cratin. is in any case older than Aeol. *πῶθι*, since here zero grade is normal. However, there is no certainty about the age of the long *i* (Sanskrit has *pāhi*). The question is therefore in which forms **pī-* was original. It should also be pointed out that the 3 pl. of an athematic aorist would have been **e-ph₃-ent* (> **ἔπεν* with analogic *ε* for **ἔπον*), a form that was not very clear and could easily be replaced.⁸⁶

An isolated case of laryngeal before *u* is *βοῦς* < **gʷohus* (**gʷéh₃us*?); see Kuiper, *Notes*, pp. 32 ff.

Perhaps *γυναι-*, Arm. *kanai-kʷ*, has *ai* from *eĥ₂-i*.

We should also discuss here the words with *αυ*, *αι*, Schwyzler, p. 347b. On the one hand borrowing is possible here (*ταῦρος*, p. 134), on the other hand, however, *-eĥ₂-u-* or *-ĥ₂eu-* may have been the origin.

In the first place there is the interchange with *ω(υ)* in *τραῦμα* A.: *τῶ(υ)μα* Hdt., Hp. and *θαῦμα* Il.: *θῶμα* Hdt. *Θαῦμα* has no cognates outside Greek. The supposition that *θαῦμα/θῶ(υ)μα* goes back to two different basic forms (**dhau-/dhōu-*, Frisk s.v.) does not inspire confidence. If the connection with *θάμβος* is correct, one finds the following stem forms side by side: *θαφ-*? (*τάφος ταφεῖν*): *θαβ-* (with prenasalization in *θάμβος*): *θαπ-*? (*τέθιπα*): *θαῤ-/θαῶ(ῤ)-* (*θηβος* = *θηφος*?, **āfā* see Frisk s.v. *θεά*, *θαῦμα*, *θῶ(υ)μα*).⁸⁷ This points to a non-IE word; see Kuiper, *Μνήμης χάριν*, I, p. 225.

⁸⁶ Recently Frei (*Cahiers De Saussure*, 16 (1958-9), 1-22, 17 (1960) 47-53 and 19 (1962), 87-91) has repeated the attempt to connect **pō-* with **āp-* 'water' on the strength of a reconstruction of a meaning 'to flow' for **pō-*. He now posits a root **h₂ep-* 'couler' > 'courant d'eau, rivière, eau' and connects this with **pō-*, **peh₃-* as **h₂ep-h₃-/h₂p-eh₃-*. This seems to me impossible, since the second form in Greek would have been **āπω-*. Skt. *páyate* is also taken here as **h₂pei-*, though semantically speaking it should preferably be left as **peĥh-* connected with *πῖαρ* etc., see p. 169. The connection with *ab-* in European names of rivers (Ἄβος ποταμός, OBrit. *Abonā*, OIr. *abann* 'river') as **h₂eph₃-* (with *ph₃ > b*) with Skt. *āpi* 'water' is an unfortunate one, since in that very case Sanskrit does not have a *b* (for the European names of rivers see p. 135). Finally, as Frei remarks, one would expect not *pibati* but **fbati* (**h₂i-h₂ph₃-*; possibly **h₂pi-h₂p(e)h₃-* > **pib-*). His attempt at an explanation, which assumes that the laryngeal had already vanished or had disappeared by dissimilation with the following one, is not convincing: the first is at variance with *irte ijate* etc., and the second is an arbitrary assumption. The conclusion from this that the first laryngeal was *h₃* again prohibits the connection with European *ab-*.

⁸⁷ The long article by Szemerényi, *Glotta*, 33 (1954), 238-65, in which he defends **dhmbh-/dhmsy-* as PIE basic forms, is not a happy one. It consists of a series of improbabilities, of which the following may be mentioned. The phonetic law *mbh > Gr. μβ* is (further) based on *θρόμβος*, of which, however, the *μ* is unexplained if it belongs with *τρέφω*; if it does not, it loses its value; the same applies to *πύνδαξ* as against *πυθμήν*. The law is refuted by words like *ὄμφαλός*, see p. 74. The idea of foreign origin of these words is an obvious one, certainly in comparison with words like *κόρυφος* — *κόρυμβος* (with which *κόρινθος* is probably connected), where the *m* cannot possibly be interpreted as PIE

If τραῦμα is the original form, τρῶμα can be understood by the association with τιτρώσκω. In view of τορεῖν, the form τιτρώσκω seems to have a root **terh₃-* (p. 233), so that τραῦμα cannot have been derived from it. Boisacq places s.v. τεῖρω the following forms together: τρᾶ-(νής), τρη-(τός) τέρε-(τρον), τρω-, τρή-(βω) and τρῦ-(ω, -χω, -πάω). This would lead to **ter-h₁/h₂/h₃* (with **tr-h-i/u > tr-i/u-h-?*), so that **treh₂u-mh₃* > τραῦμα is possible, but such an interchange of enlargements is not willingly accepted.

If the analysis of these two words is correct, this shows how misleadingly loan words can be fitted into the framework of one's own language.

The old derivation of for instance τραῦμα from **trəu-* seems possible in itself, but contradicts the development *ai > ī, əu > ū* assumed by Schulze. However, in the light of the laryngeal theory, having regard to the phonetic properties of the laryngeal (that is to say of the ə), a form **trh₁u-* is not probable: one expects here the laryngeal in consonantal function. For the development of **trh₂u-* (> **ταρυ-*) see p. 216.

For φάος < **φά-φος*, cf. Skt. *bhāti* 'to illuminate', a structure **bh₂h₂u-* is conceivable (since here the laryngeal is preceded by an occlusive and not a sonant), but it is more probable that the laryngeal was consonantal in this position too; v. *supra*. As a result φαν- (πιφαύσκω Il.) will be based on **bh₂h₂-eu-*.

A difficulty is formed by the connection of χάος χάσκω with OHG *giumo*, which points to *e*-vocalism, **gh₁h₁-eu-*; **ghē(u)-* in OHG *gēwon*.

A laryngealistic explanation for αῖος, Lith. *saūsas* (**seh₂us*) would imply that in **sh₂us-*, Skt. *śūska*, a development *hu > uh > ū* did not take place.

There are consequently various possibilities with these words with αυ αι. In a few cases this element may have developed from *eh₂u* etc., but only before consonant, otherwise one must start from *h₂-eu*, but only after occlusive (*CRheu-* would have given *CVReu-* in Greek). However, in both cases the *a*-colouring laryngeal must be demonstrated; in the other cases a phonetic αυ αι could not occur (τραῦμα not from τιτρώσκω, χάος not from **ghēu-*). Many of these words have no convincing IE etymology, so that borrowing may be envisaged, even if cognate forms are found in a few European languages (γλαινοί, χραισμέω, πταίω (< **πατ-γω?*), ραιβός, θαῦμα, καυλός (probably cognate with αὔλός; see Add.), παῦρος, ταῦρος, τραυλός, χαῦνος; χάος too?).

(an opinion shared by Frisk). The *m* of **dhembh-* is based on θάμβος; the fact that this has no *e*-vocalism has its parallels, but with zero grade one would expect **ταφος*. Szemerényi explains it as a derivative of θαμβέω, but this could only be explained as transformation of the intensive **θoμβέω* (according to ταφών). However, there is no parallel of such a transformation, so that in my opinion θάμβος cannot be explained from **dh(e)mbh-*. The perfect τέθηπα instead of the expected **τέτηφα* (the analogic η being accepted), is explained by aspiration interchanges like κιθών/χιτών, φάτνη/πάτνη, βάτραχος/βάθρακος, ἄκανθος/ἄχαντος (Lejeune, *Traité*, p. 50). However, these words all convey the impression of being of non-IE origin. It is highly improbable that the last form of a system ταφών — **τέτηφα* would have disappeared without trace, given the abundance of perfects with a stem ending in φ. Szemerényi's explanation of θῶμα as a personal venture by Herodotus on the (sole!) example of Ion. τῶτό as against Att. ταῦτό is, of course, entirely unacceptable. It may incidentally be remarked that there is no compelling reason to interpret the β in θῆβος as φ.

IX. AFTER CONSONANT BEFORE VOWEL

Laryngeal after consonant before vowel disappeared without trace in Greek, apart from possible colouring of following *e*. This development is evidenced by among others the Greek cognates of the two words celebrated in the history of the laryngeal theory, Skt. *pṛthúh* and *pánthāh*, of which the former was explained in 1891 by De Saussure.

The comparison of Lith. *platūs* with Skt. *pṛthú-*, Gr. *πλατύς* leads to the following reconstruction of the PIE paradigm:

sg. nom.	<i>*plóth₂-u-s</i>
gen.	<i>*pl̥th₂-éu-s</i>

This is given for instance by Kuiper, *Notes*, p. 55. In Sanskrit and Greek, therefore, the zero grade of the stem was generalized, and in Lithuanian the full grade. The *th* of Sanskrit was ascribed by De Saussure to the laryngeal in antevocalic position (*BSL* 35 (1891) 118). The corresponding feminine **pl̥th₂-u-ih₂* gave in Greek **πλατα(φ)ια* (Πλαταιαι), a form which was later replaced by *πλατεῖα*, with the full grade of the suffix normal in Greek (ἡδεῖα — *svādvi*). True, the phonetic development of **pl̥th₂-eu-ih₂* would probably also have been **πλατα(φ)ια*, but the ending *-eia* would probably have been analogically restored in this form, so that the form seems to go back to zero grade. Kuiper, *IJJ* 9 (1966) 224, recently published on the Indian forms. Greek has no trace of aspiration (for *πλάθωνον* see below).

In the same way Pedersen (*KZ* 32 (1893) 269; *Cinq. décl.*, p. 54) explained *pánthāh* (Lat. *pons*):

sg. nom.	<i>*pont-éh₁-s</i>	(Skt. <i>pánthāh</i>)
gen.	<i>*p̥nt-ĥ₁-ós</i>	Skt. <i>pathás</i>
pl. instr.	<i>*p̥nt-ĥ₁-bhis</i>	Av. <i>padəbīš</i> (Skt. <i>pathībhis</i>)

In Greek one finds traces of this paradigm in the words *πόντος πάτος* (the latter form could be the phonetic representation of the genitive). Here too there is no trace of the (antevocalic) laryngeal in Greek. (Cf. the Introduction, p. 9.)

None of the forms of **stā-*, **steh₂-* has aspiration in Greek, while this has become general in Indian. *Σταυρός* is of particular importance here if it goes back to **sth₂-eu-*, rather than to **steh₂u-*; cf. p. 177f.

The same may be found in *οστέον* as against Skt. *ásthi*, but here the original declension is less clear: **h₂óst-ĥ-i* **h₂st-ĥ-ei-s* Kuiper, *Notes*, p. 63, comparing

δοσρακον : ἀσπράγαλος, but these words, having regard to their suffix, seem more likely not to be IE; cf. p. 51; in that case there is no indication of \bar{h}_2 . Hamp, *Word* 9 (1953) 135-41, thinks differently.

If Kuiper's connection (*Glotta* 21 (1933) 287 ff.) of κλοτοπεύω (only T 148, approximately 'to dawdle') with Skt. *śrathnāti śrñthati* 'to become soft, etc.' is correct, κλοτ- goes back to **kloth-*. However, the structure of **k_l-n-eth-mi* would be exceptional. For οπ see p. 194.

Also of importance here is μέγα. Pedersen, *Cinq. décl.*, p. 47 ff., has reconstructed the paradigm as follows:

sg. nom.	<i>*meġ-éĥ₂</i>	(Skt. <i>mahā-</i>)
gen.	<i>*meġ-ĥ₂-ós</i>	Ved. <i>mahás</i>

In Gr. μεγα-(λο-) nothing shows the influence of the laryngeal.

Ἐγώ, Skt. *ahám* is unclear. There is no indication of a suffix *-hom* (Kuryłowicz, *Etudes*, p. 53). The origin of the -ω is not known. One might suppose **eġ-oĥ/eġ-ĥ-om*. There is no proof of aspiration by \bar{h}_3 in Indian, which makes **eġ-eĥ₃/eġ-ĥ₃-om* uncertain. Only if one were to start from **eġĥ-ō/eġĥ-om* does ἔγω show that the laryngeal disappeared without aspiration in Greek.

Skt. *hānuh* as against γένος presupposes a laryngeal, **gĥ₁-en-*, of which, however, there is no further indication.

Θυγάτηρ as against Skt. *duhitā* is a somewhat different case. As evidenced by the Indo-Iranian forms, we have here a paradigmatic interchange **dhugĥ₂-t-/dhugĥ₂-t-* (Kuiper, *Notes*, p. 21 ff.), i.e. interconsonantal laryngeal: in Greek, θυγα- in any case does not have the aspiration of Indian. See the Introduction, p. 8.

In the 3 pl. of athematic presents the laryngeal disappeared before the ending *-onti*, Skt. *punānti* < **pu-n-ĥ-onti* as against *punāti punihī*. Corresponding to this are κάμνουσι < **k_ṃ-n-ĥ₂-onti*, τάμνουσι < **t_ṃ-n-ĥ₁-onti*, forms which facilitated the transition to the thematic declension.

Kuryłowicz has pointed out (*Pr. Fil.*, in particular pp. 209-14) that the apparent exceptions to Brugmann's Law are explained by the original presence of laryngeals. For instance *jána-* from **ġonĥ₁-* (not **ġon-o-*, which would have become **jāna-*). Consequently a laryngeal will also have disappeared in Greek γόνος. In this category there are also a number of compounds of which the second component displays the same phenomenon, e.g. *aja-gará-* 'goat-swallowing', with which the following comply in Greek:

δημο-βόρος (A 231; < **-g^uorĥ₃-*, connected with βιβρώσκω),
 εἰροκ-όμος (Γ 387), ἵπποκόμος (Hdt.; **-k_ṃomĥ₂-*),
 δορυ-τόμος (Π 633 etc.; **-tomĥ₁-*).

A laryngeal has also been lost from γένος βέλος (as against βέλε-μνον). Admittedly, apparent *aniṭ* forms of **ġenĥ₁-* also occur (γέγαμεν), but these can easily be explained as analogic formations; see p. 244. The possibility that *seṭ* and *aniṭ* roots, i.e. roots with and without laryngeal as enlargement (**ġen-* : **ġenĥ₁-*), existed side by side

cannot be entirely excluded, but one may not avail oneself of it unnecessarily. It is a methodical requirement, in those cases in which the non-enlarged root cannot be imperatively demonstrated, to try to explain the existing forms on the basis of the disyllabic root before taking refuge in the *ultima ratio* of root variants in the proto-language.

Three cases are stated which are claimed to demonstrate that the laryngeal caused aspiration in Greek too in this position, viz. *πλάθωνον*, and the endings of the 2 sg. aor. pass. in *-θης* and the 2 sg. perf. (act.) in *-θα*.

It is by no means certain that *πλάθωνον* 'kneading board or tray' (LSJ Suppl.) belongs with *πλατύς* (and therefore has $\theta < th_2$). WP II 63 connects it with **pelā-*, which is hardly more convincing phonetically (*πλᾶ-θ-* < **plh₂-dh-* is impossible; see p. 245). Cf. *πλακοῦς* 'flat cake' and *πλακερός* 'πλατύς, broad'. Non-IE origin must be considered: firstly many words for kitchen utensils are Mediterranean and secondly many words ending in *-ωνον* are non-IE (Schwyzer, pp. 489 f.).

There remain the two endings. The connection of 2 sg. aor. pass. *-θης* with Skt. *-thās* is probably incorrect. Within Indo-Iranian *-thās* stands alone as against Iranian *-ha, -sa* < **-so*, so that Indian innovation (though probably building on an ending with *t(h)*) seems self-evident. In Greek there is no indication that *-θης* is older than the remaining forms of this series (*-θην, -θη* etc.). One finds *θη* beside an older *η*-series in intransitive-passive verb forms. The θ occurs as present formant. Cf. Meillet-Vendryes, *Gramm. comp.*, p. 215, Prévot, *L'aoriste passif en -θην*, Benveniste, *Origines*, pp. 188-210, in particular pp. 196 ff.

On the other hand, the comparison of 2 sg. perf. act. *-θα* with Skt. *-tha* is indisputable. Hitt. 2 sg. pret. *-ta* will, in view of the parallel form *-ti* in the present (which must go back to **-thi* (*-thei*?), since PIE *-ti* would have become *-zi*), have a laryngeal. PIE *-th₂e* gives Skt. *-tha*, but Gr. *-θα* would be at variance with the foregoing. Kuryłowicz explains *-θα* by **-τα* after $\phi\theta\chi$, comparing the generalization in Gothic of *-t*, which was phonetic after spirant (*s, f, h*). This is not a convincing explanation, since *-θα* is found exclusively after σ (starting from *οἶσθα* and *ἤσθα*). According to Frisk, "Suffixales *-th-* im Idg." (*GHÄ* 42 (1936) 2.42 f.), the θ is on the analogy of *-θι*. The latest to write on this was Cowgill, pp. 172 f. (*-στα* after labial and velar became *-σθα*).

The question of the *tenuis aspiratae* in general or of the correspondence of Gr. $\phi\theta\chi$ with Indian *ph th kh* cannot be discussed here.⁸⁸ For *s + tenuis aspirata* at the beginning of the word see Hiersche, *Unters.*; for Greek pp. 176-231.⁸⁹ But, whatever the explanation of *-θα* may be, the cases mentioned leave no doubt that the laryngeal after consonant before vowel disappeared without trace in Greek, possibly after colouring following *e*.

⁸⁸ *Κόγχος*, which has been connected with Skt. *saikhā-*, will be non-IE, in view of *κόχλος*, Kuiper, *IJ*, 4 (1960), 245, n. 45. The form *όνυχ-*, Skt. *nakhā-*, mentioned by Schwyzler, p. 298, in this connection belongs to another category, since here the other languages point to *gh*, OHG *nagal*.

⁸⁹ It is striking that a very large part of the Greek material discussed by Hiersche seems to be of non-IE origin.

X. BETWEEN CONSONANTS

The majority of the cases of laryngeal between consonants are found in the so-called disyllabic roots (*TeRH-C*). Here the preceding consonant is usually a sonant, as a result of which complications occur in the zero grade (*TRH-C*). It therefore seemed best to discuss the disyllabic roots as a whole in a separate chapter (Chapter XI). The result is that most of the cases that belong in this chapter will be dealt with in the next one, so that the problem discussed here must be viewed in its relation to the following one. Consequently no conclusion can be given here; this may be found in the final conclusions, p. 265.

Here, then, we shall confine ourselves to those cases forming no part of a disyllabic root; usually an occlusive precedes them. The laryngeal in the position stated is usually represented by a vowel in Greek. The question that must be asked here is whether one must start from consonantal or vocalic laryngeal in the basic language. Thus Iranian points to a paradigmatic interchange of \hbar_2 and $\tilde{\hbar}_2$ in the basic word for πατήρ; Introduction, p. 8. It must therefore be asked whether the Greek α is based on generalization of $\tilde{\hbar}_2$ or whether the \hbar_2 was vocalized phonetically. That the latter was the case is evidenced by the disyllabic roots (*TeRH-C*; see p. 227 ff.) and for instance ἱερός < *ish₁rós (*infra*). However, there are indications that the consonantal laryngeal was not always vocalized in Greek (ἱρός). It goes without saying that $\tilde{\hbar}$, which was a vowel in the proto-language, was a vowel in all languages.

The vowel that represents the laryngeal is an *i* in Indo-Iranian and an *a* in the other languages;⁹⁰ Greek, however, retained the original opposition between the three laryngeals and has $\hbar_1 > \varepsilon$, $\hbar_2 > \alpha$, $\hbar_3 > \circ$. To demonstrate this is one of the principal objectives of this chapter and the next one, while the question should also be considered of whether all dialects display the same development here.

The material that contradicts this view is very scanty (Schwyzer, pp. 340f.). The connection between ματεύω μαίομαι (μαιμάω?) and μῶμαι is too uncertain to be able to serve as an argument. (Moreover, μᾶ- cannot go back to *m \hbar_2 -; see p. 245.) The connection between σαχνός (Gal.) 'tender' (κρέα) and κατασώχω (Hdt.) 'to rub to pieces, pound' cannot offer any argument. For in general ω/α is no proof, since ω can be an apophonic form of ā which may not be known (in this case *sh₂gh-/soh₂gh- is therefore possible); but the word does not have any etymology at all. For χατέω

⁹⁰ In Germanic *u* (see p. 187) sometimes appears, which is left out of consideration here.

χατίζω (Hom.; χάτις χάτος Boisacq, Schwyzler do not occur, only χατίς· ἐπιθυμία, χρῆσις Hsch.) a connection with *χῆτος (χῆτει Hom.) χῆρος is, however, self-evident. But it is impossible to connect these words with χάος, since this seems to have a stem χαφ-/χαυ-. In that case the origin of the η of *χῆτος is also unknown (unless it is assumed that these words have the root in common). The connection of ἄβρός with ἥβη is semantically possible but formally difficult: Lith. *jegà* would suggest **iēh₁-g^u-*, but in that case one would expect **iēh₁g^u-* > **iēβ-* rather than **iēg^u-* in the zero grade. It therefore seems more probable that one has to start from **iēg^u-/iēg^u-*. Cf. p. 246. For γλώσσα γλάσσα see p. 246.

Some aorist forms with α in the root, also where the full grade has ē, seem to present a difficulty here. Of the type πῆγνυμι ἐπάγην (σῆπω, τήκω), πτήσσω ἑπτακον only μηκάομαι μακῶν could go back to **mē-*. But here and in the case of ῥήγνυμι ἑρράγην and τμήγω τμάγεν with η < ē/ǣ after sonant, the zero with ǣ does not go back to **mrh₁g-* (etc.), since these forms would have acquired a long vowel phonetically (and in this way would have become equal to the full grade); see p. 245. The forms with ǣ must therefore be analogic and it is easy to understand that here a zero grade distinguished from the full grade was created secondarily. Most of these forms do not seem to go back direct to a PIE basic type.

The material showing *h₁* > ε, *h₃* > ο is likewise scanty.

The reading ὀσκεθής is too disputed to be reliable (see Frisk).

The interpretation of εὐθενέω (A.)/εὐθηνέω (h.Hom., Hdt.) is too uncertain to offer an argument here; see Frisk, I, p. 586f.

μέτρον from **mē-*, Skt. *māti*, cannot go back to **mēh₁trom*, since this would have given **μη-*. A form **mēh₁trom*, with vocalic laryngeal after sonant, is not probable. One must therefore start from **mēh₁-etrom*; cf. Ved. *dātra-* < **dēh₃-etro-*, *dhāna-* < **dēh₁-eno-*.

μακρός is difficult; μήκος may represent **mēh₂kos*, but **mēh₂k-* would also have been *mā-* (μη-). Lat. *mācer* cannot go back to **mēh₂k-* either (one would expect **māc-*). Av. *masah-* 'length', comp. *masyā*, superl. *masišta-*, cannot go back to **mēhk-* (this would have given **mis-*). Phonetically speaking the only possibility seems to be **mēh₂ek-* > **mak-* (in all languages), **mēh₂k-* > μηκ-ιστος. In that case Avestan would have generalized the full grade. However, the adjectives ending in -ro- usually have zero grade (ἐρυσθρός, ἀργός — Skt. *rjrá-*), and the neuters ending in -os full grade. The whole remains unclear.

It has already been pointed out that πο- in ποτός πόσις may go back direct to **pēh₃-*; p. 175ff.

δοχμός (Il.) 'aslant' is connected with Skt. *jihmá-* 'idem', despite the difficulty of the anlaut (< **žižhma-* < **dižhma-*?).⁹¹ The stem vowel must then go back to a laryngeal, **dēh₃gh-mo-* (or **dēghmo-*?). Assimilation from **δαχμός* is an arbitrary assumption: there are dozens of words with such vocalism and the same structure (Schwyzler, p. 492).

⁹¹ Is the laryngeal responsible for this unusual development?

A case of exceptional importance is ἱερός. The distribution of the various forms of this word in the inscriptions was investigated by Locher, *Unters.*, pp. 5-8. It was found that ἱερός occurs in Mycenaean (*ijero(jo)*, *ijereu*, *ijereja*, *ijerowoko*), Arcadian, Cypriot, Attic and Ionic (Western, Central, and Southern East Ionic — Miletus before 500 —); ἱαρός in Doric, NW Greek and Boeotian (probably from NW Greek) and Pamphylian (possibly under Doric influence); ἱρος on Lesbos and (ἱρός) in Northern East Ionic (Abdera, Thasos, Chios). Thessalian has ἱαρ- once, and for the rest ἱεο-.

The conclusion imposes itself that we are concerned here with a dialectically different development, in which ἱαρός belongs in West Greek, ἱρος in Aeolic (going from there to Northern East Ionic?) and ἱερός elsewhere. It must, however, be admitted that ἱρος cannot be shown in Boeotian and Thessalian and that Thessalian has ἱεο-, which would have to be ascribed to Ionic-Attic influence. Anticipating what follows, I believe that this material indicates that the dialects still had the form **ish₁rós*, that this developed to ἱαρός in West Greek and to ἱερός in East Greek, whilst ἱρος might be Aeolic, from where it spread to Northern East Ionic.

The aspiration, which is absent only in areas with early psilosis, shows *s*. The immediately preceding stage was therefore **iseros isaros isros*. Such an interchange of forms is very rare. However, one does find -αρος and -ερος side by side in *μαρός* Hom.: -ερός Call.; *βριαρός* Hom.: -ερός inscr. of Rom. period; *σκιαρός* Pi., Pl.: -ερός Hom.; *χλιαρός* Epich., Hdt.: -ερός Alc.; *πιαρός* Hp.: -ερός Hp. (forms after Locher, *op. cit.*, p. 13f.). The ratio for this interchange is not known. It is striking that all have -ια/ερος. This suggests influence of ἱερός/ἱαρός (so Schwyzler thinks, p. 482; cf. especially p. 243f.). Schwyzler traces the forms of ἱερός back to an old neuter, as with ὕδερρος Hp.: ὕδαρης Hp.: ὕδρος Il. from ὕδωρ etc. In itself this is of course possible, but the geographical-dialectal distribution is not explained in this way. This points to dialectally different development of one and the same basic form. That is confirmed by Ved. *iṣirá-* 'vigorous, lively'. The semantic side now forms no further problem. The Greek word, divided by W. Schulze, *Quaest.*, pp. 207 ff., into four etyma, is now interpreted as "worin sich eine besondere, über dem Menschen stehende 'Macht' wirksam erweist" (Locher, p. 64, with specifications such as "ausserordentlich stark" (of a town), "— bewegt" (of a river), "von unvergleichlicher Impulskraft"). This meaning is consistent with that of *iṣṇāti* 'to bring into violent motion'. The connection is established beyond any doubt by the corresponding connection in ἱερόν μένος and Ved. *iṣirēṇā mānasā* (instr.); for a recent view of this syntagm see Schmitt, *Idg. Dichterspr.*, pp. 88-90. The connection with *iṣṇāti* points to a disyllabic root **ish-*. This leads to the reconstruction **ishrós*, from which ἱερός can also be derived, provided that **ish₁rós* is assumed. The Aeolic form, which must go back to **isros*, has therefore lost the consonantal laryngeal. The same phenomenon is found in the Thracian river name⁹² Ἰστρὸς⁹³

⁹² For the connection with rivers cf. ἱερόν ῥόον Ἀλφειοῖο Λ 726, cf. Hes. *Op.* 566 and the use in connection with ποταμός κ 351 and Hes. *Th.* 788.

⁹³ Būga, *Rev. ét. slav.*, 6, 9f., derives *Istr-* from **Instr-*.

(Hes. *Th.* 339); for *sr-* > *str-* in Thracian (?) cf. Στρῦμων, which will stem from the root **sreu-* 'to flow'. Perhaps the river name *Isara* (Celtic?) also belongs here, though it may also belong to the European substratum (in view of the suffixes of the type *ar(a)*, *al(a)*, *am(a)*).

The Doric form ἱαρός thus presupposes $\bar{h}_1 > \alpha$. It will have to be examined to what extent Doric thus had a different development from the other dialects. It is conceivable that the α here came into being under the influence of the p .⁹⁴

ἄνεμος, which is entirely isolated in Greek and therefore may be mentioned here, is dealt with under the disyllabic roots.

The zero grade stem forms $\theta\epsilon-$ $\acute{\epsilon}-$ $\delta\epsilon-$ $\delta\omicron-$ are usually explained as replacements of * $\theta\alpha-$ etc. on the analogy of the full grade $\theta\eta-$ etc. However, there is no trace of the supposed forms ($\theta\acute{\epsilon}\mu\iota\varsigma$, $\theta\epsilon\sigma\mu\acute{\omicron}\varsigma$; $\acute{\epsilon}\nu\acute{\nu}\epsilon\sigma\iota\alpha\iota$, $\acute{\epsilon}\xi\epsilon\sigma\acute{\iota}\eta$, $\acute{\epsilon}\nu\epsilon\tau\acute{\eta}$; $\delta\epsilon\sigma\mu\acute{\omicron}\varsigma$, $\delta\epsilon\tau\acute{\eta}\rho$; $\delta\acute{\omicron}\sigma\iota\varsigma$, $\delta\omicron\tau\acute{\eta}\rho$; all in Homer); it is uncertain that $\delta\acute{\alpha}\nu\omicron\varsigma$ 'gift' Euph. belongs with $\delta\acute{\iota}\delta\omega\mu\iota$ (see Frisk). In itself this question cannot be answered. It should be seen against the overall picture: that the original opposition between the three laryngeals in Greek — perhaps with the exception of Doric — was preserved emerges from the 'prothetic vowel', Attic reduplication, the disyllabic roots and the cases mentioned above. In this situation it is quite certain that also in $\theta\epsilon-$ etc., $\delta\omicron-$ the ϵ and the \omicron are the direct continuation of the vocalized laryngeal and do not take the place of * $\theta\alpha-$ etc. * $\delta\alpha-$, of which developments there are no indications.

I see no phonetic basis for Cowgill's idea (p. 154) that \bar{h}_1 and \bar{h}_3 became ϵ and \omicron respectively only in the vicinity of sonants. As a counter-argument one can point to $\acute{\epsilon}\gamma\epsilon\acute{\iota}\rho\omega$ etc., see the list on p. 68 f., and the above $\pi\omicron\tau\acute{\omicron}\varsigma$ $\delta\omicron\chi\mu\acute{\omicron}\varsigma$ (and $\acute{\iota}\epsilon\rho\acute{\omicron}\varsigma$, where at least the preceding consonant is not a sonant).

Needless to say, this conclusion will not be used in Chapter XI, since it is itself based on that chapter.

⁹⁴ The connection with Celt. **isarno-* 'iron' (Gall. *Isarno-*, OIr. *iarn* etc.), from which the Germanic words have been borrowed, Goth. *eisarn* etc., encounters the difficulty of the long *i*. This could be explained only as Illyrian development of **ei-*, Pokorny, *KZ*, 46 (1914), 292. However, this remains an unverifiable hypothesis. Semantically speaking, Kuiper's interpretation of $\nu\acute{\omicron}\rho\omicron\pi\iota$ and $\epsilon\delta\eta\nu\omicron\rho\alpha$ (see p. 75 f. of this book), epithets of $\chi\alpha\lambda\kappa\acute{\omicron}\varsigma$, as 'full of vital energy', would be a neat parallel, for the meaning of $\acute{\iota}\epsilon\rho\acute{\omicron}\varsigma$ seems to have been about the same (*supra*).

XI. AFTER SONANT: THE DISYLLABIC ROOTS

In the sequence consonant — sonant — laryngeal special developments occur. Such a group is found most frequently in the so-called disyllabic roots. The problems that these forms present can best be discussed in their interrelation.

Attention was first drawn to the importance of these roots by De Saussure, *Mémoire*, p. 239 ff. A term of Indian grammarians is used to describe them: *seṭ* roots, as against the *aniṭ* roots ('with' and 'without *i*') on the strength of the comparison of Skt. *tāri-tum* : *dhār-tum*, *bhavi-tum* : *śro-tum* (*śro-* < **kleu-*).

Here the same pointless controversy prevails as referred to in a preceding chapter (p. 89ff.). Hirt reconstructs for these roots basic forms of the type **pelā-*; Benveniste (*Origines*, pp. 147-73), building on De Saussure's hypothesis of the consonantal *ə* (the laryngeal), operates solely with the historically demonstrable forms **pel-h₂-* : **pl-eh₂-*, parallel to **ter-s-* : **tr-es-*, which he regards as a biconsonantal root **pel-* with enlargement (*h*, *s*) or suffix (*eh*, *es*).⁹⁵ Thus, according to this view, the 'disyllabic' roots in PIE in no way differed from other three-consonantal roots, but the special development displayed by this group justifies a separate name; consequently the current nomenclature will be maintained, although it is therefore meaningless.

One of the main aims of this book is to demonstrate that the distinction between the three PIE laryngeals was preserved in Greek. Consequently it will be investigated in the following to what extent the disyllabic roots are of importance to this problem. They will therefore be classified on a basis of the nature of the laryngeal. There is the greatest agreement on the development of those with *h₂*, while these also form the largest group, so that it seems appropriate to begin with them.

A. DISYLLABIC ROOTS WITH *h₂*

As the first consonant of the disyllabic roots is usually an occlusive, and the second a sonant, they may be suitably symbolized by *TeRH*.

As stated, there is a large degree of agreement on the development of the disyllabic roots with *h₂*. For Greek one assumes:

⁹⁵ It is of course entirely pointless to say that there is an essential difference between these two (with suffix interchange *ek/k*, *en/n* etc. is possible, with enlargement (*k*, *n*, *t*) it is not), since the assertion can neither be proved nor refuted; cf. Kuiper, *Notes*, p. 6, n. 1.

full grade I
TeRh₂ > *TɛRa*

full grade II
TReh₂ > *TRā*

and with *o*-vocalism:

ToRh₂ > *ToRa*

TRoĥ₂ > *TRō*

In addition one finds *TRā* at places where one would expect a zero grade, i.e. *TRH*, while moreover a form *TaRa* is frequent. The last two forms will be discussed after the survey of the material (p. 189 ff.), but for clarity's sake the form which is regarded here as the original one (*TRĥ₂* and *T_eRĥ₂* respectively) has already been stated here and there.

A short survey of the representations found in the other languages is useful for what follows.

In INDIAN the full grade I appears as *TaRi*.⁹⁶ The *i* of this is sometimes long, but this is based on an innovation which is unimportant to PIE. The zero grade has *īr*, *ūr* < *rĥ ĩh*, *ā* < *ṛh ̃h*. The distinction between *i* and *u* in *īr/ūr* does not go back to PIE (at the beginning of the word only *īr*, after labials only *ūr*, *AiGr.* 1, p. 28 and Kuiper, *Die Sprache*, 7, p. 15 with n. 4). The forms *ām ān* have their *m n* possibly through analogy.⁹⁷ For forms corresponding to *TaRa* see p. 208.

IRANIAN has *TaR* for both the full grade I and for the zero grade (in Avestan this is written *arə*; the representation of PIE *r* is written here as *ərə*).

In BALTO-SLAVIC a trace of the laryngeal after sonant may sometimes be found in the stress. Lithuanian has here an acute, *ér* < *erĥ*, *ár* < *orĥ*, *īr/ūr* < *rĥ*, while PIE *r* became *iř*. The representation *īr/ūr* does not point to historical connection with Indian *īr/ūr*, as emerges from the fact that Iranian has an entirely different development (*supra*).

Serbian has in the zero grade *ř* < *rĥ*, *ũ* < *ĩh*, *ě* < *ṛh ̃h* (as against *ř ũ ě* < *r* etc.).

In GERMANIC the laryngeal was usually lost without trace (*ur* < *r* and *rĥ*), but sometimes appears as *u* (in circumstances to be further determined, see p. 153, 202).

CELTIC has in the zero grade *rā lā mā nā*, but also *ar al am an* (Lewis-Pedersen, pp. 4 ff.; the representation of the sonants is very complicated: one finds in part *ri li*, and in part *ar (ra) al (la)* and partly *em en*, partly *am an*, but not in all dialects in the same way). The type *ara* also occurs. (Cf. Watkins, *Eriu* 18 (1958) 85-101. Hamp, *Evidence*, p. 227 n. 2, doubts that *ar* etc. can be a phonetic representation of *rĥ*.)

LATIN has in the zero grade *rā lā mā nā*. The reduced grade seems to have had *ara*, and the full grade *era (ora)*, but the second vowel has in most cases either been weakened or entirely eliminated.

⁹⁶ For *ToRh* one would expect *TāRi*, but no case of this is known to me.

⁹⁷ Burrow's view, *Skt. Lg.*, p. 86, that *ṛh* became *ā*, but *ṛh* becomes *ān*, is in my opinion refuted by *dhvāntā-*.

1. MATERIAL FOR THE DISYLLABIC ROOTS ENDING IN \bar{h}_2

This survey is based on the material in Brugmann, *Grundr.*, I² 1, pp. 417-23 and 473-81, Hirt, *Idg. Gramm.*, 2, pp. 103-47, and Schwyzler, pp. 359-63, and more recent literature. It makes no claim to be exhaustive, although most of the material has probably been collected in this way.

There are only very few cases in which the second consonant of the root is not a sonant but an occlusive.

Whether σφαδῶζω 'to toss the body about, be excited' (A.) belongs here (Schwyzer, p. 341) is highly uncertain. Connection with σφεδανός and σφοδρός 'violent, vehement' is obvious, but attempts have also been made to involve σφενδόνη 'sling'. One could further compare σφένδαμνος 'maple' and σφόνδυλος (σπ-) 'vertebra', σφονδύλη (σπ-) 'an insect, a kind of weasel and (-ιον) a plant'. Both the form (prenasalization δ : νδ, σφ : σπ) and the meaning (σφενδόνη, σφονδύλη) then suggest a non-IE word; cf. Ernout-Meillet s.v. *funda*.

πετάννυμι Hom. has the forms πίτνημι (Hes. πίτνω), πέτασε, πέπταμαι, πετάσθησαν. The present πίτνημι corresponds to the Indian ninth class (De Saussure, *Mémoire*, p. 240, Benveniste, *Origines*, pp. 159 ff.), cf.

<i>pavi-tum</i>	<i>pu-n-ā-ti</i>	from	<i>*peṃh-</i>	<i>*pu-n-eḥ-ti</i>
πέτα-σε	πίτ-ν-η-μι	from	<i>*petḥ₂-s-</i>	<i>*pet-n-eḥ₂-mi</i>

(The question of the ι remains out of consideration here.) On the aorist πέτασσε, incorrectly analysed as πέτασ-σε (Chantraine, *Gr. Hom.*, pp. 409 f.), πετάννυμι was formed. The origin of the present forms may therefore be sketched as follows:

πίτνημι Hom.	(aor. πέτασσε ν Hom.) → πετάω Luc.
↓	↓
πίτνω Hes.	πετάννυμι Ar. → πεταννώω X.

(The original system is interspaced.) The perfect πέπταμαι (Il.) has the expected zero grade **pṭh₂-*. There is no reason why this form should be secondary (Schwyzer, p. 770, 6, and recently Frisk, II, p. 520; πέπλημαι etc. do not of course furnish proof, since here the second consonant is a sonant; the exceptional form therefore points much more towards great age, since its origin can in my opinion hardly be explained by analogy; one would then expect the stem form πετα(σ)- instead, which one consequently finds in πεπέτακα (D.S.), πεπέτασμαι (E.)). A derivative is πέταλον 'leaf'. Πατάνη 'a flat dish' (Sophr.) could be based on **petḥ₂-*, like Lat. *pateo*, if the connection with this root is correct: one may envisage a loan word here, cf. πλάθανον, p. 181. Assimilation from **πετάνη* (Schmidt, KZ 32.355 f.) is not probable, since words with *TeTa* are frequent (πέταλον, σφεδανός).

Entirely parallel is σκεδά ννυμι (Thphr.). One finds (δια-)σκίδνημι, σκιδνάμαι

(Il.), σκεδάσω (Thgn.), σκεδῶ (Att.), σκέδασα (Il.), ἐσκέδασμαι (X.), ἐσκεδάσθην (Il.). Forms without initial σ- also occur. Derivative σκέδασις (Od.); it is not surprising that one does not find the normal zero grade here (*σκηδᾶ-?). And yet there is no indication of *skedh₂- in the related languages; these point rather to a present *sk(h₁)-n-ed-mi, con. *sk(h₁)-en-d-ō (Av. *sčandayeiti*).

To this group also belongs ἔπιτατο 'to fly' (aor.; Il.; πτάμένη *ibid.*). Coni. πτήται O 170. The present πέτομαι will go back to *peth₂-o-. However, in that case one must assume that the thematic vowel *e* has been restored analogically, for *h₂-e* would have given *α* (in Homer the forms with *ε* predominate; with *ο* only πέτονται and (ἐ)πέτοντο). The form πίνω (A.) = πίπτω 'to fall' is perhaps a remnant of the original nasal present. The latter form may have the long *ι* on the analogy of ῥίπτω, and further be based on *pi-pth₂-e/o-. For πότμος ποταμός see p. 240.⁹⁸

However, the great majority of the disyllabic roots have a sonant as the second consonant, representing a type *TeRH-*.

It cannot always be made out for certain whether one is concerned with a set or with an anit root. This is particularly difficult in the case of words isolated in Greek without convincing etymology. The material encountered in the literature will therefore have to be divided among a number of groups on the strength of the reliability of the interpretation, viz. as follows:

- (a) Non-IE words;
- (b) Words that have no disyllabic root;
- (c) Words of which the interpretation is very uncertain;
- (d) Words of which the disyllabic root cannot be demonstrated for certain;
- (e) Words practically isolated in Greek for which the other languages indicate disyllabic root;
- (f) Words of which various apophonic forms occur in Greek which indicate disyllabic root.

It follows from the nature of this classification that the division between these groups is not a sharp one. It will be clear that for the further discussion only the last two groups are of importance.

a. Non-IE Words

A number of words that are involved in the discussion do not have a convincing IE etymology and by their structure suggest that they have been borrowed from a non-IE language.

ἄμαθος (beside ψάματος Il.; ψάμμος μ 243 (Aeol. ψόμμος, LSJ Suppl.), ἄμμος Pl.). Although cognate with MHG *sampt* (OHG *sant*) a form PIE *samadhō- is not probable on account of the *a* in the stem, while ψάματος also cannot be so explained. The word seems more likely to be non-IE, cf. Kuiper, Μνήμης χάριν, I, p. 218

⁹⁸ For the semantic side of this connection see R. Schmitt, *Idg. Dichterspr.*, n. 301: the meaning 'to fly' originally in the present (imperfective aspect), 'to fall' in the aorist (perfective aspect).

with n. 34: **(p)sam-/sab(h?)* (cf. ψῆφος ψαφαρός, Lat. *sabulum*); Central European? Cf. in Krahe, *Spr. u. Vorz.*, p. 58, the elements *sal(a)-*, *albh-*, *am(a)-*, *-ma-*, with which a form *sabh(a)-ma-* corresponds in structure.

In this way θάλασσα beside δαλάγχαν· θάλασσαν Hsch. with interchange θ/δ and χ/γγ also points to non-IE origin (cf. Kuiper, *Μνήμης χάριν*, I, p. 225). (For an entirely different interpretation see p. 209).

γνάθος (Ion.-Att.; γναθμός Hom.) is connected by some with Lith. *žándas* < **gñh₂dh-*, but the form γνάθος cannot be explained by **gñh₂dh-* (see p. 245). Analogously κναδάλλεται κνήθεται Hsch. is connected with Lith. *kándu* 'bite, sting' positing a stem **konh₂d-*. But the comparison of γνάθος with κναθ- (cf. also κνάδοι· σιαγόνες, γνάθοι Hsch.) points with γ/κ and θ/δ to a non-IE language. Other members of this group are κνώδαλον (p 317) 'wild creature', κνώδων 'teeth on a hunting spear'. Κνώδαλον recalls κνώψ (Nic.), κινώπετον (Call., Nic.; cf. ἐρπετόν) 'venomous beast', κνωπεύς· ἄρκτος, ἐνιοι κνουπεύς Hsch., κυνοῦπες· ἄρκτος (sic). Μακεδόνες Hsch. Further members of this group are perhaps κνάπτω 'to card, comb (wool), full, mangle, tear', κνέφαλλον γνάφαλλον γνόφαλλον with κ/γ and interchange ε/α/ο, which can hardly be based on IE ablaut. For the further connection with -κναίω κνήν cf. ψαίω ψῆν (with which ψάμαθος is connected, *supra* s.v. ἄμαθος).

For the same reason the following group of words, which appear to have been derived from the same root, seem non-IE:

κέραφος — σκέραφος — σχέραφος
κερβολούσα — σκέρβολος
κέρτομος

Of the same kind is the interchange κόναβος : κόμπος 'din, clash'.

κνήκος 'safflower, *Carthamus tinctorius*' cannot be connected with Skt. *kāñcana-* as **kñh-k-*, since this would have given **kāk/c-* in Indian. Furthermore, OHG *honag* etc. can hardly be connected with this root. The meaning (the name of a plant) suggests borrowing.

κάλαθος 'basket' is connected with κλώθω 'to spin', which is not very convincing from the semantic point of view. Cf. for the suffix γύργαθος κύαθος λήκυθος and further κάνασθον κάναστρον 'basket'.

b. No Disyllabic Root

For a few words that are sometimes mentioned in this connection the related languages demonstrate that we are not concerned with a disyllabic root.

It is improbable that ταναός is based on a disyllabic root, in view of Skt. *tanvī*, not **tānī* < **tñhñ-iñ₂*. The word occurs in Homer only in Π 589 and in ταναήκης (only in ταναήκει χαλκῷ) beside τανυήκης and (μῆλα) ταναύποδα ι 464. Outside Homer its occurrence is also very limited, although a few other compounds with τανα- are found. The formation of the word is not clear. The comparison with Lith. *tinti* 'to swell, breathe heavily' should be abandoned in view of the meaning. However, the similarity to Corn. *tanow* < **tanawo-* is striking. One is reminded of the

incidentally also unclear Lat. *gravis* < *g^ur_eui- (as against *g^ur_eru- > βαρύς, *infra*); ταναφός thus from *t_eneμ-o-? According to Szemerényi, *Syncope*, pp. 157 ff., ταναφός is built on *ταναφ_α, the feminine of *τανύς. But in that case the masculine here would have been derived from the feminine at an earlier stage than κραταιός from *κραταια (cf. p. 249 n. 122), since otherwise one would expect *ταναιός. The demonstrable forms do in fact suggest this; besides the fact that the Celtic forms seem to go back in part to *tanawyo- (OIr. *tanae* etc.), and in part to *tanawo-, ταναφός also occurs in Mycenaean, *tanawa* 'slender' (description of wheels; see Chadwick-Baumbach, *Glotta* 41 (1963) 157-270 s.v.).

Nor are βαρύς and Skt. *gurú-* based on a disyllabic root, in view of Skt. fem. *gurvī*. Lat. *gravis* is unclear (*g^ur_eui-?), but in any case not from *g^ur_hui- (*g^ur_əui-; this would have given *grāvi). Skt. *gariman-* 'weight' is meaningless, since *-iman* was secondarily extended at an early stage.

γάλα γάλακτος (Il.) beside γλάγος (Il.), κλάγος· γάλα. Kṛṇṭes Hsch., γλακῶντες· μεστοὶ γάλακτος Hsch., γλακτοφάγος and Lat. *lac* point to *glak(t)-. A disyllabic root is therefore out of the question. It may be doubted whether this word is of IE origin.

c. Words of which the Interpretation is highly uncertain

The interpretation of a few words is so uncertain that they must be left out of consideration further.

That δάμαρ (Il.) goes back to the root *demh₂- 'to build' (Benveniste, *Origines*, p. 30) is not semantically convincing; moreover, *demh₂rt- (*d_hh₂rt-?) may perhaps have given δάμαρ, but Aeol. δόμορτις· γυνή Hsch. presupposes *dem₂t- instead. See Add. to p. 202.

Fraenkel, *Etym. Wb.*, disclaims any relation between δρᾶ- (δράω δρᾶμα) and Lith. *daryti* 'to make, do' (causative of *derėti* 'to serve') or *dárbas* 'work', *dirbti* 'to work'. There is no further indication of disyllabic root for the Greek word.

For δαρθάνω (Hom. only ἔδραθον) Skt. *drāti* on the one hand and OCS *drěmati*, Lat. *dormio* on the other hand could suggest *dr-eh₂- : *dr-em-* (OCS **drēm-*, Lat. **d_hm-*). In that case ἔδραθον supposes a third enlargement of this root, *dr-edh₂- (*d_h-dh-). There is consequently no reason to assume that this form ever had a laryngeal.

κέραμος 'potter's earth' has no etymology; the connection with κέρασαι is semantically weak.

The connection of τέραμνον (usually pl.) 'chamber, house' (the reading τέρεμνον is uncertain) with Lat. *trabs*, *trabes* 'beam, timber', Osc. *triībūm* [*trēbom*] 'domum, aedificium' (with *ē*), Lith. *trobà* 'building, house' (with *ā*) cannot be explained by IE ablaut. Celtic, OW *treb* 'habitation' and Germanic, OE *-þrep* have **treb-*. Cf. OBrit. *treb* 'division of the people', ON *þorp* 'small enclosure, crowd'. The possible connection between these words is, within PIE, unclear from the formal point of view.

ἀτέραμνος ‘merciless (Od.), hard’ (τέραμνον· ἀπαλόν, ἐψανόν Hsch.; τεράμων ‘becoming soft by boiling’ Thphr.) can hardly be connected semantically with τρᾶνής ‘clear, distinct’ (S.). The suffix -αμνο- may suggest non-IE origin, but analysis **terh₂-mno-* remains possible; further connection with Skt. *taruṇa-* ‘tender’ should then be considered.

d. *Words for which Disyllabic Root cannot be demonstrated*

For the following words allowance must be made for the possibility of disyllabic root.

χαλάζα ‘hail’ may be cognate with OCS *žlédica*, Slov. *zlěd* ‘glazed frost’ as **gh_elh₂d-*, **ghelh₂d-*.

χέραδος ‘silt, gravel and rubbish (brought down by torrents)’ has been compared with Lith. *grúodas* ‘frozen rubbish in the street’. Within Greek it may be connected with χαράδρα ‘torrent’ (= Heracl. χάραδος, Buck, *Gr. Diall.*, p. 373).

κέλαδος ‘loud noise, din’ has -(α)δος, like many other words indicating a noise, χρόμαδος (*infra*), ὄμαδος, ἄραδος, ῥοῖβδος, ὀρυμαγδός. Connection with καλέω (see p. 235) is possible only as **kelh₁-* + -αδος. The gloss κέλωρ· φωνή Hsch. and κελαρύζειν do not stand in the way of the supposition of a disyllabic root (**kelh₁-ōr/ kelh₁-r*, see p. 202; however, from **kelh₁-r* one would expect **κελερ*).

χρόμαδος (γενύων Ψ 688) ‘crashing sound’, χρεμετίζω (Il.) ‘to neigh, whinny’, χρέμπτομαι (E.) ‘to cough’ does not suggest disyllabic root if the last form belongs with the others. Χρεμετίζω may have a formative *et*, like *ed* in OE *grymettan*, *gremettan*, OHG *gremizzōn* ‘to roar’ (here, therefore, **gremh-et-* remains possible). For -αδος see s.v. κέλαδος.

στενάχω στοναχή (cf. καναχή) finds support for disyllabic root in Skt. *stani-hi*, *stanáyati* (< **stonhēyeti*), *abhi-ṣṭaná-* (< **stonhō-*, cf. ἀγαστονος μ 97). Whether the Gallic river name *Tanaros* belongs here is very dubious.

If the original meaning of φάλαγξ is ‘round piece of wood, trunk, log’ it could be cognate with Lat. (*suf-*)*flāmen* ‘clog, break’, from **bhlh₂g-s-*; Lith. *balžiena*, OHG *balko*, OE *bealca*, ON *bólkr* from Germ. **balk-* < PIE **bholh₂g-*? For Lat. *fulcio* < **bholh₂-k-* one should, however, bear in mind the objection of Ernout-Meillet that PIE did not have any roots with aspirate — voiceless consonant (*bh* — *k*). However, it is the question whether this also applies to a second enlargement. And yet one must consider non-IE origin for the Greek word, especially in view of the nasal in φαλαγγ-.

For τέναγος ‘shoal water, shallows, lagoon’ cf. Latv. *tīgas* (< **tingas*) ‘depression between two shallows’, Lith. *stingti* ‘to congeal’ (for the meaning cf. Skt. *styāyate* ‘to congeal’, *stiyā* ‘stagnant water’). However, it is not certain that *stingti* goes back to **stñhg-*.

A disyllabic root is suggested by ἐχάλασσα (h.Ap. 6; χαλάω ‘to slacken, loose; become slack, loose’). Beside χαλαρός ‘slack, loose’ one may perhaps place Sch. Pi. P. 9.38 χλᾶρὸν γελαῖν· προσσηνὲς καὶ ἡδύ (as **ghl₂-* beside **gh_elh₂-*). Cf. Lesb. χόλαισι (Alc., = χαλῶσι) ἄχολος ‘without rest’; for the o see p. 223.

ἡρέμα 'gently, softly' (Pl., Ar.) perhaps belongs with Lith. *rĩmti* 'to be quiet'. The ἡ- then remains unexplained; if lengthened 'prothesis', one would have to assume **h₁remh₂-*. For an entirely different interpretation see p. 262.

βάραθρον, Arc. ζέρεθρον (with ζ < δ; δ in Hsch.), Aeol. βέρεθρον. The different development of the labio-velar (βα : δε) points to an original opposition between reduced grade and full grade, **g^u_rh₁-* : **g^uerh₁-*. One would prefer to ascribe the different forms to dialectal development (cf. p. 183 on ἱερός) (i.e. for instance **g^u_rh₁-* > δερε-/βαρα-), but there is insufficient support for this (see p. 259 ff.). If the laryngeal was *h₂*, then ζέρεθρον βέρεθρον must have been assimilated from **βερα-*. But it is also possible that βάραθρον stands for **βαρε-* < **g^u_rh₁-* if **r_hh₁* became αρε and not ερε: cf. p. 227 ff. The difficulty remains the same if one tries to attach a formative -εθρον to the disyllabic root: both *-h₁edhrom* and *-h₁dhrom* give -εθρον, both *-h₂edhrom* and *-h₂dhrom* give -αθρον. For the supposed connection with βιβρώσκω see p. 234. The connection with δέρη (Frisk) should be abandoned, on account of both the difference in meaning (δέρη in the first place 'neck') and the form (Aeol. δερα as against βέρεθρον); this word in any case does not have a disyllabic root, as emerges from Arc. δερφα.

It does not seem impossible, partly in view of the meaning, that the word is non-IE. For the structure of the word and the suffix cf. μάραθρον, Schwyzer, p. 533.1, κάναθρον, *ibid.*, p. 532.3, κμέλεθρον/μέλαθρον (p. 215 n. 107 of this book) and σπάλαθρον, *infra*. However, for β/δ(ζ) one would have to assume a kind of labio-velar in the substratum language. There are in fact various indications of this. These divide into three groups.

(1) Interchanges of labials, gutturals and dentals in substratum words.

(a) Interchange of labial and guttural: σπάλαθρον σπαύλαθρον σπάλαυθρον: σκάλαυθρον σκάλευθρον (v.l. σκάλεθρον); for α/αυ cf. ο/ου in δλόπτω : δλούφω (: λέπω) p. 42, and s.v. ἄλοξ, p. 40; the word — 'oven-rake' — has of course nothing to do with σπάλαξ 'mole' or σπάλαθρον 'a thorn bush'. Further (ᾱ)σπάλαξ (ᾱ)σπάλαξ : σκάλωψ (or metathesis?); Πυανειῶν Πανόψια : Κυανόψια; Πύδνα : Κύδνα, Πιερόν : Κιερόν; πόρνοψ πάρνοψ : κόρνοψ (a kind of locust), ?βράκαλον· ρόπαλον Hsch. For βλέπω/γλέπω, βλέφαρον/γλέφαρον (if these last two groups are cognate, they moreover display interchange π/φ), βλήχων/γλήχων dissimilatory loss of the labial element of the labio-velar is assumed (Schwyzer, pp. 298 f., Buck, *Gr. Diall.*, p. 75). For the last pair, however, this is out of the question, so that another explanation must also be considered for the other words; cf. the counter-arguments of Lejeune, *Traité*, p. 38 n. 2. Foreign origin seems obvious (for instance through the meaning of βλήχων: the name of a plant). In that case there is a good chance that βλωθρός/γλωθρός (despite West, see p. 215 f.) also belongs to this series. In my opinion an other instance is ὀφθαλμός, Boeot. ὄκταλλος, Dor. ὀπτί(λ)ος. Frisk's "mit altem κτ, analogischem πτ und expressivem φθ" does not seem to be the right explanation.

Note the accumulation of difficulties for IE origin in these words: λμ/λλ, λ/λλ, α/ι. For -αλμος cf. σχινδαλμός (for which the variants point to a substratum word: σχινδάλαμος, σκινδαλ(α)μός, σχιδαλαμός, σκινδαλ-εύω, σκινδυλεύω; see Hiersche, *Unters.*, pp. 215 f.); for α/ι cf. α/υ in the word just mentioned; the suffix υλ(λ) (beside which ιλ(λ) is to be expected, in view of ι/υ in these words, cf. -ι/υνθ-, p. 71) is frequent in substratum words (Schwyzer, p. 485).

(b) Interchange of labial and dental in substratum words: ἄμπυξ : ἄντυξ, σάμβalon : σάνδαλον, πεμφρηδών : τενθρηδών, ὀβελός ὀβολός : ὀδελός ὀδολκαί, Περμησσός (Πάρμησσος) : Τερμησσός, Παρνασσός : Τερνεσσός (the same as the preceding item?), Πευμάττιος : Τευμήσσιος (M. L. West, *Hesiod, Theogony*, pp. 153 f.), ?Βριτόμαρπις (LSJ Suppl. s.v.): -μαρτις.

(c) Interchange labial/guttural/dental in γέφυρα/βέφυρα/δέφυρα, for which Arm. *kamur-j* points to a substratum word on account of the interchange *bh/m* (Kuiper, *Μνήμης χάριν*, p. 213).

(2) The labio-velar that forms the basis of these substratum words may still be pointed to in Mycenaean: *qasireu* : βασιλεύς, *atorogo* : ἄνθρωπος (Kuiper, *loc. cit.*), *qeto* : πίθος. The form *qaratoro* is perhaps the above-mentioned σπάλαθρον. However, *karako* 'glākhōn' : βλήχων is striking. Cf. also the place-name *sukirita* 'Sugrita' : Σύβριτα: see the footnote in Chadwick-Baumbach, p. 245. Myc. *apuke* (etc.) 'ampuk-' also does not have the *q* expected from ἄμπυξ : ἄντυξ (for ἄμπυξ in relation to horses LSJ Suppl. now gives the meaning 'bit').

The suffix *on* (Schwyzer, p. 496,3; p. 426 Zus. with n. 4) seems to me also to be an element of the substratum language; it will have developed from *ok*^u. It is found in the names of animals, which certainly belong to the substratum (σκάλοψ, πόρνοψ/πάρνοψ/κόρνοψ/(ἄκορνός), πηνέλοψ) and in the name of peoples that do not have an IE etymology ('Ἀέροπες, Ἐλλοπες, Δόλοπες), and further in a number of words of which the meaning is unknown (ἦνοψ, μέροψ, ?νῶροψ) and perhaps in a few other non-IE words (ἄστεροπή (cf. p. 51), ?καλαῦροψ). Chantaine, *Mél. Cumont*, pp. 121-8, draws attention to the fact that some names of peoples correspond to those of birds: 'Ἀέροπες, Μέροπες, Δρύοπες. His idea that the former were derived from the latter seems correct to me; cf. in Italy the *Piceni* (*picus* 'woodpecker' = δρύοψ), *Hirpini*, ?*Lucani*.

In my opinion *Αἰθίοπες* also belongs here, which therefore does not mean 'with burnt face' (as is still believed by Frisk s.v. αἶθω). This also emerges from the following consideration. The Thessalian name for a people *Αἰθῖκες* is evidently a formal variant of *Αἰθίοπες* with the same meaning. Apart from the fact that here the meaning 'with burnt face' is much less obvious, this form is not explicable as a compound with PIE *ok*^u- (*h₃ek*^u-) 'face', for **h₃eidh-i-h₃k*^u — would have given **Αἰθῖτες*, certainly in an Aeolic dialect. Here one must either assume a non-IE element *ok*^u, which was able to give Thess. κ, or another suffix (ῖκ); in the latter case too it is probable that *on* is a suffix with about the same function and not PIE *ok*^u- 'face'. That in this word *on* developed from *ok*^u emerges from Myc. *aitijoqo*. Further one finds here *pokiroqo* ('*poikilok*^s'), which in my opinion contains the same suffix (cf. αἰθός : αἶθωψ). Cf. also *moroqoro* '?molog^uroi' : ?Μολοβοροί.

It may be this same suffix that is also found with a few perhaps IE stems, e.g. ἡπεροπεύω, κλοτοπεύω (p. 180).

(3) On the strength of the so-called complex signs in the Linear B syllabary (*two two dwe dwo nwa, tja rja rjo*) Palmer (e.g. *Interpretation*, pp. 38 ff.) assumed that the substratum language had labialized and palatalized consonants beside neutral ones, e.g. *k*^u : *k*^l : *k*. The most recent to publish on this was Lejeune, *Proceedings Cambr. Coll. Myc. Stud.*, pp. 135-49. See Add.

Many details of the original forms and their development (evidently differing

dialectally or regionally) still call for an explanation. However, this requires a much more detailed examination of the material.

Finally, for the interchange ϵ/α in βαρ-/ζερε- which can hardly be explained from IE, compare κμέλεθρον : μέλαθρον, σκάλευθρον : σκάλαυθρον, εὐλάκα : αὐλάχα (p. 40 s.v. ἄλοξ), Περμησσός : Πάρμησος, Τερνεσός : Παρνασσός, Φεκεδαμος : Ἀκάδημος (Φηεκάδαμος).

β ἄ λ α ν ο ς may be based on $*g^u_l h_2 n-$, but there is no clear indication of disyllabic root. Lat. *glans gland-is* could represent $*g^u_l hnd-$. The Armenian form, which is the closest to Greek, *kalin kalnoy*, must have had a vowel e after the l and therefore cannot go back direct to $*g^u_l h_2 en-$, since this would have become $*g^u_l h_2 an-$ as early as the proto-language. However, without h_2 the suffix $-an(-d)-$ can hardly be explained by PIE. Striking is the d -suffix in Latin, Slavic (RussCS *želudb* < $-rdb$ < $-andi$) and Albanian (*lënd*), while Lithuanian has *gile*, without n and d . One must consider non-IE origin (for n/nd cf. for instance Kuiper, Μνήμης χάριν, p. 215 (-αμος/-αμβος), p. 216 (-ιν/-ινθ-) and p. 221 f. (θρῶναξ/*trond/t- in Slavic); for the semantic range cf. ἐρέβινθος, κύαμος, Lat. *faba*).

π ρ ᾱ ὄ ς (Pi.) will in the first instance go back to $*prāiú-$ (the hiatus from loss of h (cf. σῶς, p. 249) or s would already have disappeared). The root syllable may represent full or zero grade (cf. γραῦς, s.v. γέρας, p. 201), i.e. $*pr(e)h_2 i-$ ($*k^u r(e)h_2 i-$?).

e. Words for which Disyllabic Root can be rendered probable

λ ῆ ν ο ς, Skt. *ūrṇā*, Av. *varənā*, Lith. *vilna*, Serb. *vūna*, Lat. *lāna* all point to $*u_l h_2 n-$. If Arm. *gelmn* is based on $*u_l h_2 mn-$, the laryngeal must have disappeared. Strange is W. *gwlan*, explained as $*u_l āna$; this form, however, is identical with $*u_l h_2 n-$, for which one would expect the development *lā* in Celtic. MIr. *olann* has unexplained o . Kuryłowicz, *Apophonie*, p. 198, presupposes a compound form of $*u_l h_2 nā$, i.e. $*u_l h_2 nā$; cf. p. 242 ff.

ε ἰ ν ᾱ τ ε ρ ε ς 'wives of brothers' (Il.; εἰ- m.c.; ἐνατηρ inscr.), OLith. *jentė* EastLith. *intė*, Phryg. *ιανατερα*,⁹⁹ Lat. *ianitrices*, Skt. *yātar-* suggest a disyllabic root $*i_2 en h_2-$. Greek and Lithuanian would continue $*i_2 en h_2-$, Phrygian and Latin $*i_2 en h_2-$, Indian, $*i_2 en h_2-$. This ablaut doubtless stems from the declension, but the occurrence of three apophonic forms side by side is striking.

κ ἄ λ α μ ο ς has a disyllabic root, as is evidenced by Russ. *solóma*, Serb. *slāma* < $*kol h_2 mos$. OPr. *salme*, Latv. *salms*, OHG *halm*, Lat. *culmus* have the same origin. However, there is no reason to assume that κάλαμος was assimilated from $*κολαμος$, for there are various words with this vocalism, see p. 206. OW *calamennou*, NW *calaf*, has the same apophonic form as Greek; however, allowance must be made for the possibility that these words have been borrowed from Lat. *calamus* (which has itself been borrowed from Gr. κάλαμος).

Forms like $*kol h_2 m-o$ $*k_2 l h_2 m-o$ and $*p_2 l h_2 m-ā$ $*p_2 l h_2 m-ā$ (in παλάμη and OIr. *lám*

⁹⁹ However, the form *ιανατερα* appears in a Greek inscription (from Lydia); J. Keil u. A. v. Premerstein, *Reisen*, I, p. 78, No. 166.

infra s.v. πλήσσω) seem to be thematizations of *m*-stems, having regard to the interchange in the stem vocalism. The clearest case of an old *m*-stem is the word for 'earth', Gr. χθών (cf. Kuiper, *Notes*, pp. 9 f., 86 ff.). Skt. *kṣāḥ*, Av. *zā* point here to an original nominative **ḡh₂ōms*.¹⁰⁰ The stem **ḡh₂om-* is found in χθον- and Lat. *humus* < **homos*; *e*-vocalism is found in OLat. *hemo*, stem *hem-on-*, Lith. *žėmė*, ORuss. *zemlja* and probably also Skt. *kṣāmi* (**ḡh₂om-i* would have become **kṣāmi*), and Phryg. ζεμελω. The zero grade in gen. Av. *zəmo*, Skt. *kṣmāḥ* (or rather *jmāḥ*, for which analogically *kṣmāḥ*? for *gmāḥ* see Mayrhofer s.v.) from **ḡh₂m-ós* and Lith. *žmuo* 'human being' < **ḡhm-ōn* and perhaps Phryg. Γδαν. The reduced grade is found in Goth. *guma* < **ḡh₂m-en-* and Gr. χαμα- and χθαμα- (χαμάδις χαμαί χαμαῖζε Hom.; χθαμαλός N 683 ι 25 ~ κ 196 λ 194 μ 101). Χθαμαλός is reminiscent of *humilis* and may go back to **ḡh₂mḥ-lo-*, cf. *similis* — ὁμαλός p. 208, where Greek has *o*-vocalism, like Latin in *humilis*; however, in both cases this may be secondary, after ὁμός and *humus*. The word for 'human being' therefore has the phases **ḡhem-* *ḡh₂m-* *ḡhm-on-* (*hemo guma žmuo* respectively). It is not clear whether **ḡh₂m-* has a place in the original declension of 'earth' itself, for which **ḡh₂óm-s* *ḡh₂óm-η* (*ḡh₂ém-?*) *ḡh₂m-ós* is, however, certain.

This does not throw much light on the declension of the above words: **kólh₂m* *kólh₂m-ós* (neuter?); **pélh₂m* (beside **plh₂m*) does not, however, seem to be an original nominative. Here too (as with χθών) one is inclined to assume that the three phases formed part of one paradigm (*Tólhm-* *Télhm-* *Tlhm-*).

κνήμη (Dor. κνῆμᾱ), OIr. *cnāim* go back to **knām-*. If OHG *hamma* 'hollow of the knee, ham' belongs here as **konh₂mā*, both **kneh₂m-* and **knh₂m-* may be considered for Greek and Irish (for the ablaut see s.v. κάλαμος).

γέρανος 'crane' corresponds to Lith. *gėrvė* < **gerh₂-ū-*. The form **gₑrh₂n-* is contained in Gaul. (*tarvos tri-*)*garanos* '(bull with three) cranes', W. *garan*. Less clear are OHG *kran-uh*, Lat. *grūs*. (The verb is perhaps found in Skt. *grṇāti* 'to rustle, sing', *jaritár-* 'singer'.)

κόραξ is unclear. Comparison with Skt. *śārikā* 'magpie', Lith. *šárka* (Russ. *soróka*, Serb. *svrāka*) could suggest **kórḥ₂-k-* (with Skt. *-orh₂-* > *-āri-*, if it does not have the suffix *-ikā*). But κόραξ κορώνη with the closest cognates Lat. *cornix* (*corvus*), tend to point more to an *n*-stem, **kórōn korn-ós*, so that κόραξ could be explained by **kór-ṇ-k-*. However, Lat. *corvus* points to an *u*-stem (**kórōus kórū-ós*). A disyllabic root would be reconcilable with this (**kórḥ-ōn* etc.; for *corvus* < **kórḥ-ū-* cf. *culmus* < **kólh₂m-* s.v. κάλαμος). Martinet's interpretation, **kórₑh₂-s* > κόραξ, **kór-eḥ₃-nā* > κορώνη (noted as **kor-°Aʷ-s* etc.) in BSL 51 (1955) 55 n. 3 with the explanation "La labialité aurait disparu dans le groupe *-Aʷs*, d'où l'a de κόραξ" presupposes a development of which there are insufficient indications. The criticism by Cowgill, pp. 176 ff., may suffice here. The interpretation of this word therefore remains highly uncertain.

¹⁰⁰ The matter of initial consonantism remains out of consideration here; the formulation *ḡh₂* is followed here without commitment. For literature see *Evidence*, p. 20, n. 73.

κεραῖζω (Il.) 'ravage, plunder' is a secondary present; Skt. *śṛṇāti* 'to break, smash' has the old form. OIr. *docer* 'he fell' has disyllabic root, *-kerh-*. This stem is further found in ἀκέραιος and κέραινος, which goes back to *κερα-φαρ/υν- < *kerh₂-ur/yn-*. Cf. ἐλαύνω *infra*.

ἐλάσαι has a root ἐλα- < **(h₁)elh₂-*; ἐλαύνω goes back to a noun *ἐλα-φαρ/υν-, cf. κεραῖζω *supra*.

νῆσσα, Boeot. νᾶσσα 'duck' may correspond exactly to Skt. *ātī-* 'a water bird', both from **h₂ti-*, while on the other hand Lith. *ántis*, Serb. *ūtva*, Lat. *anas* (*anatis*), OHG *anut*, which all go back in the first instance **anət-*, to cannot be separated from this. The two forms probably stem from one paradigm, but the obvious **h₂enh₂tis*, gen. **h₂enh₂téis* seems to me to be out of the question, since **h₂h₂-* would have given **ἄνᾱ-* in Greek; see p. 95. All that then remains is the reconstruction **_enh₂tis* (**_enh₂tis?*) **h₂téis*. (For the nominative with reduction vowel *e* cf. Kuiper, *Notes*, p. 19 f.)

σφαραγ- The situation here is complicated. Probably a distinction has to be made between three groups.

(1) A group of words for 'throat, gullet, gully': (ἄ)σφάραγος, φάραγξ, φάρυγξ, βρόγχος, βρόχθος, βράγχος, βάραγχος, βρακεῖν, βράξαι, βρόξαι. The group seems to be of non-IE origin, cf. Kuiper, *Μνήμης χάριν*, p. 221.

(2) The word for 'asparagus' ἄσπάραγος (ἄσφάραγος Att.). The beginning of the word, ἄσπ-/ἄσφ-, and the fact that it is the name of a plant suggest non-IE origin. But if the original meaning is 'the edible shoots thereof' (Thphr.), 'the shoots (of other plants)' (Nic.), a connection with Lith. *spūrgas* 'sprout, offshoot', Skt. *sphūrja-* 'plant', Av. *sparəga-* 'sprout (at the point of an arrow)' is possible. The basic form **sp_rh₂g-* which the latter forms would suggest would have given Gr. **σπῤῥᾱγ-*; ἄσπάραγος would have to be based on **sp_er_hg-*, but the ἄ- and the interchange π/φ make strange origin more probable all the same. It is of course possible to think of a contamination of non-IE **(ἄ)σπαραγ-/ἄσφαραγ-* 'asparagus' and a PIE **sp_er_hg-* > **σπαραγ-* 'sprout, shoot'. However, the *ph* of Sanskrit also remains a difficulty (PIE **shperh₂g-*, giving Gr. **hsperh₂g-*, Skt. *sp_herh₂g-*?).

(3) σφαραγέομαι 'to groan with fullness, to be full to be bursting' (οὔθατα ι 440) and 'to burst with noise, crackle, spatter, hiss' (LSJ). This meaning is found in Skt. *sphūrjati* 'to burst forth, appear; to rumble, roar, thunder'. A root **sp_er_hg₂g-/sp_rh₂g-* therefore seems certain. This is conformed to by Lith. *spirgti* (**sp_rh₂g-*) 'hiss (of things fried)', but Lithuanian has other forms in *sprógti* 'to burst' (**spr_eh₂g-*?) and *spragėti* 'to crackle, spatter', which is derived from *spragà* 'Bresche, Mangel, Zaunlücke, Spalt' and *sprägė* 'idem' and (2) 'von einem brennenden Scheit abgesprungener Splitter' (Fraenkel; basic form?). The zero grade is also found in Serb. *p_ržiti* 'to roast'. Neither the φ nor the ph of Sanskrit have been explained. The connection with Lat. *spargo* (which may be **sp_er_hg-*) is uncertain. A difficulty is also presented by σπαργάω (E.) 'to be full to bursting, swell, be ripe', which one would not like to separate from the preceding group, but which is difficult to explain by disyllabic root

(cf. Lith. *sprag-*). Perhaps in the case of this emotionally charged, onomatopoeic word allowance must be made for developments that cannot be traced now.

μαλακός 'soft' is connected with βλάξ 'stolid, stupid', which of course is not semantically imperative (**m_elh₂k-*, **m_lh₂k-*). OIr. *mláith* 'soft, weak' (**mle_h₂-ti* or **m_lh₂-ti-*) suggests a distant connection with the root of 'to grind', Skt. *mṛṇāti*, Lith. *málti*, *miltai* (pl.) 'meal', MW *blawt*, OCorn. *blot* (**m_lh₂tó-*) 'meal'. Lith. *mùlkis* 'Dummkopf' may go back to the same **m_lh-k-*, but Skt. *mūrkhá-* has been secondarily derived from *mūrchatī* 'to be defeated' (*kh* analogic? cf. *AiGr.* II 2, p. 93 and 543 f.).

f. Stems with different Apophonic Forms in Greek

κάρᾱ. One finds in Greek two old apophonic forms of the word for 'head', *καρᾱσ-* in *κάρηνα* (cf. Skt. *śiras* < **ḱ_erh₂-es*) and *κρᾱσ-* in *κρᾱτος* < **κρᾱσατος* < -*ḡ-tos*, which replaced **κρᾱνός* < -*n-ós*, corresponding to Skt. *śirṣṇás* (beside more recent *śirṣatás*), from **ḱ_erh₂s-* and **ḱ_rh₂s-* respectively. The full grade **ḱ_erh₂-s-* in Lat. *cerebrum* < **cerasrom*, unless this goes back to **ḱ_erh₂-es-ro-* (cf. Skt. *śiras* < **ḱ_erh₂-es-*), cf. *tenebrae* p. 229.

On the other hand, the word for 'horn', Skt. *śṛṅgam*, Lat. *cornu*, Goth. *haúrn*, W. *carn* does not seem to have had a laryngeal (**ker-n-*). It is therefore the question whether *κέρας* goes back to **ḱ_erh₂s* and not to **ḱ_erh₂-s* instead. In this way *κερα(φ)ός* (Lat. *cervus*) could be based on **ḱ_erh₂mos*, but the connection with Russ. *koróna*, Serb. *kràva* (there is no reason to assume **kōrṷā*), Lith. *kárnvė* nevertheless points to **ḱ_erh₂uo-*. (The group κορυφή κόρυμβος, however, displays the clear characteristics of a non-IE substratum word.)

δάμνημι, aor. δάμασαι, perf. δέδμημαι (II.); derivations δμητήρ h.Pos. 5, δμητήρι δμησις (II.; δάμασις Sch. Pi.), ἄδμητος (II.), ἄδάμαστος (I 158), ἄδμής (δ 637 ζ 109. 228). PIE **demh₂-*. The present must originally have sounded like **dm_n-eh₂-mi*, OIr. *damnaid* 'festbinden, (Pferde) bändigen'; δαμ- from *dm_n-* before *n* as in κάμνω τάμνω or analogic, cf. Schwyzler, p. 693 n. 1 with Nachtr. The aorist probably stands for **δεμασαι* after the present. In this way (παν-)δαμάτωρ (II.) as against Skt. *damitár-* (< **demh₂-*, or **domh₂-*? PIE **d_emh₂-* would have given Skt. **dimi-*, see p. 000) for **δεμα-*, of which Greek has no trace (Lat. *domitor* with generalized *o*). The zero grade in Skt. *dāntá-* (ἄ-δμητος), *dāmyati* (*ām* for *ā*?). Full grade with *o* in *damáyati* (**domh₂éyeti*; Goth. *gatamjan*) and *arim-dama-* (**-domh₂o-*) 'den Feind bewältigend'; ἱππό-δαμος (II.) therefore probably for *-δομος, which perhaps was also replaced to avoid homonymy with -δομος from δέμω 'to build' (e.g. οἰκοδόμος). Thus in Greek one has beside δμη- (**dme_h₂-* and **d_mh₂-*) only δαμ(α)-, but a form with original **d_emh₂-* is not demonstrable.

δέμω 'to build'; (ἐ)δέδμητο (Hom.; νεόδμᾱτος Pi.) points to a disyllabic root, as does Skt. *dāma-*, if from **domh₂o-*. Perhaps δέμας represents **demh₂-s*. See Add.

κεράννυμι (κεραίω I 203, κέρᾱω II.) has an older present κίρνημι (Od.), which perhaps stands for *κάρνημι < **ḱ_r-n-eh₂-mi*, aor. κέρᾱσ(σ)αι (II.; ἐπι-κρήσαι η 164, Hp.), perf. κέκρᾱμαι (Sapph., Pi., Ion.-Att.; κεκέρασμαι Arist.), κρᾱῖναι (Th.)

κερασθῆναι (Pl.). Here, then, we can see a tendency to generalize κερασ-. The starting-point was κίρνημι—ἐκέρασα—κέκρᾶμαι. Derivatives κρᾶσις (A.) as against (κατα-)κέρασις (Arist.), κρᾶτήρ (Il.) *karatera* Myc. Skt. (*ḍ-*)*śirta-* corresponds to (*ṣ-*)κρᾶτος (Il.).

κρεμάννυμι (Att.), κρίμνημι and κρήμνημι (Pi., Hp., Trag.) has in the *Iliad* an intransitive present κρέμῃμαι (κρέμω O 18.21) and the aorist κρεμάσαι, which form the oldest part of the system. Although a **kṛm-n-eh₂-mi* is conceivable (for the structure cf. p. 44), κρέμαμαι more readily suggests **kremh₂mi*. Connection with Goth. *hramjan* 'to crucify' is possible (**kromh₂ei-e/o-*), cf. *gatamjan* belonging with δάμνημι. Lith. *kárti* < **korh-ti* 'to hang' may suggest **kr-eh₂-* beside **kr-em-h₂-*. In that case κρημνός 'overhanging bank' (Il.) can be explained as **kr-(e)h₂-m-*. The form κρήμνημι must be analogic (after κρημνός?).

πελάσσαι, pres. πέλναμαι (Il.) (for **παλν-*?) has the old scheme **pl₁-n-eh₂-mi* **pelh₂-*. The aorist πλῆτο (Il.) will also be old, but with zero grade **pl₁h₂-*; see p. 95. Zero grade is probably also found in πλῆσιον, Dor. πλᾶσιον; for the formation see Frisk, II, p. 495, where possible Irish cognates of this word are also given.

γελᾶω has an aorist γελάσ(σ)αι (Il.), which suggests **gelh₂-*. The present will have been **γέλαμι* (J. Schmidt, KZ 39.35; not **γελάμι* with Specht, KZ 63.211-6, cf. Schwyzler, p. 682,3), which is also suggested by Arg. διεγέλα καταγελάμενος. For γέλας etc. see p. 000. In γαλήνη 'stillness (of the sea)' we have **γαλασ-* < **g_elh₂-s-*, cf. κάρηνα, if it has been derived from this root (cf. also σελήνη). Equally dubious is γλήνη (Il.) 'eyeball' (possibly **gl₁h₂-*).

θνήσκω τέθνηκα — ἔθανον — θνητός all occur in the *Iliad*. Sanskrit has the aorist *ádhanāt* (**dh_uen₂-*); *dhvāntá-* (for the *n* cf. *dānta-* s.v. δάμνημι) conforms to θνητός. For ἔθανον < **e-dh_ueh₂om* see p. 217. The plural of τέθνηκα, τέθνᾶμεν, is analogic, see p. 204. Θάνατος goes back to **dh_uen₂-*, cf. κάματος s.v. κάμνω (p. 201).

ταράσσω. In Homer the aorist ἐτάραξε and the perfect τετρηχῦα (H 346), ppf. τετρήχει (B 95) occur, which suggests a root **dhreh₂gh-*. The present ταράσσω (Pi.) is denominative or derived from the aorist. However, the aorist cannot be old, since one would in that case expect θ and because full grade is normal here (although **dherh₂ghs-* is not a very probable aorist formation). One must therefore assume influence of a noun, e.g. παραχή (**dh_er_hgh-*), although this does not occur until Herodotus. Θράσσω (Pi., Hp.), θρᾶσαι (A., E.) may therefore be older and be based on **dhreh₂gh-*. The *u*-stem τρηχύς will be based on zero grade (**dh₁h₂gh-(e)u-*).

πράσσω belongs to a widespread root **per-* (in πέρᾱ(v), πέρι, πείρω) with the suffix *eh₂*. Of this, Greek has two verbs besides πράσσω, or rather one verb of which a specialized meaning acquired separate forms (Chantraine, *Gr. Hom.*, p. 354 with n. 2). These verbs are:

(1) 'to export for sale' πέρνημι (Il.); "περάω wrongly inferred from forms like ἐπέρασσα" LSJ), ἐπέρασσα (Il.), πέπρᾱκα (Alex.), πέπρᾱμαι ἐπράθην (A.; πεπερημένος Φ 58, a form which one would more readily expect with (2), but Leskien's

conjecture *πεπρημένος is not permissible); on these latter forms πιπράσκομαι (Lys.) was built, and πιπράσκω (Thphr., see LSJ Suppl. s.v. πέρνυμι).

(2) 'to drive right through, traverse, penetrate, pierce' περάω περήσω ἐπέρησα, all II. (πεπέρακα A.).

(3) 'to pass through, fare (well etc.), achieve' πρήσσω πρήξω ἔπρηξα (all II.), πέπρῶγα πέπρῶχα (Hdt.).

The last form has an invariable stem **pr(e)h₂g-* (cf. πρᾶγμα). The present must be based on the aorist (Schwyzer, p. 715), πέπρῶχα is an innovation for πέπρῶγα. The aorist itself may have been derived from a present *πρᾶ-γ-ω (cf. τμήγω) (beside which the perfect πέπρῶγα therefore stood).

Πέρνυμι is an old present that has the ε of ἐπέρασα, for original *πάρνυμι < **pr-n-eh₂-mi* (or *πίρνυμι?); Aeol. πορνάμεν (Hsch.) arose phonetically from this basic form.

The system of περάω is entirely a Greek innovation.

πλῆσσω, πλῆξα ἐπέπληγον, πέπληγα, πληγῆναι all in Homer, πλαγῆναι (Hdt., only in compounds). Derivatives are πληγή, Dor. πλᾶγᾶ. Germanic OE *floccan* 'to beat', Goth. *faiflokun*; OCS *plakati se* 'to be sad' (Lith. *plakù plàkti*). Greek therefore has a root **pl(e)h₂g-* (πλήσσω is derived from the aorist).

The full grade I (**pelh₂g-*) perhaps in πέλαγος, with an original meaning 'flat', cf. OHG *flah* and Gr. πλάξ πλάκος 'anything flat and broad; plain, ocean-plain, flat top of a hill' (cf. OHG *fluoh* < **plāki* 'roche escarpé'). However, the last Greek form is difficult to explain, since **plh₂k-* could not become πλάκ- (but only *πλᾶκ-). Cf. Lith. *plakù plàkti* (Lat. *plango*). One might envisage here a word of non-IE origin, cf. Πλάκος and Oícel. *floer* (< **plak-es*) 'Felsenabsätze'; cf. Frisk, II, p. 350.

Without the enlargement *k/g* one has Lith. *plóju plóti* 'platt drücken, breit formen' — *rankàs* 'die Hände breit zusammenschlagen, in die Hände klatschen'.

An *n*-derivation is found in Lat. *plānus*, Celt. *Medio-lānum* (cf. OIr. *lár* 'ground, soil'); Lith. *plónas* 'thin', *plónė* 'cake'. Πέλανος 'cake' may therefore belong with this. Also compare for the meaning πλακοίεις πλακοῦς (Ar.) 'flat cake' (πλάξ *supra*). However, it must be doubted that παλάθη 'cake of preserved fruit' (Hdt.) and πλάθανον 'kneading board or tray' (LSJ Suppl.) belong here; an enlargement *dh* is not found elsewhere (from this stem; the words create the impression of being of non-IE origin).

Finally, παλάμη may belong to this root, for which Lat. *palma*, OIr. *lám* (cf. *lár supra*) in any case suggest disyllabic root. More difficult is the relation between παλαστή, Lith. *plāštaka* and OHG *flazza* (all 'palm of the hand'). *Plāštaka* is derived from *plàkti (supra)* as **plakškata*.

ἔτλην does not have any old present in Greek; τλάω appears very late (Tz.), the perfect or τολμάω acts as present. Beside ἔτλην, the aorist also has ἐτάλασσα, the perfect is τέτληκα τέτλαμεν τετληώς (all II.). Cf. p. 244.

The old present is probably found in Mlr. *tlenaid* < **tlināti* < **tl-n-eh₂-ti* (Lat. *tollo* < **tl-n-*?), which would have given *τάλνημι (*τίλνημι?) in Greek. *Έτλην

**LARYNGEAL IN THE MIDDLE
OF THE WORD**

Compared with the position at the beginning or the end of the word, the possible surroundings for the laryngeal in the middle of the word are of course greater. They will all be considered separately in the following chapters.

An explanation, as in the preceding section, is hampered by the sonants which, depending on the further structure of the word, may function either as consonants or as vowels. In one case they display a special development that must be discussed separately. To make the treatment clearer, a survey will be given of the following chapters:

after vowel	Ch. VI.	<i>VHC</i>
	Ch. VII.	<i>VHV</i>
	Ch. VIII.	<i>Hi/i, Hu/u</i>
after consonant	Ch. IX.	<i>CHV</i>
	Ch. X.	<i>CHC</i>
	Ch. XI.	<i>RH</i> (the disyllabic roots)

Chapter VIII can of course be divided among VI, VII, IX and X, but as these cases occur of one stem, it seemed more desirable to take them quite separately. Chapter XI, too, may be divided among the four chapters mentioned, but here the same applies as for VIII, while moreover in this case *r l ʔ n ʔ* followed by laryngeal display a special development.

At the end in a separate chapter (XII) the material is presented where an inter-consonantal laryngeal seems to be lost.

VI. AFTER VOWEL BEFORE CONSONANT

As the vocalic sonants *r l ŋ ŋ* followed by laryngeal display special developments, they will be discussed in a separate chapter (XI). Here therefore only *e, o* and *i, u* plus laryngeal are to be discussed.

One of the fundamental ideas of the laryngeal theory is that the long vowels assumed for the proto-language which are not based on contraction or on lengthening developed from short vowel followed by laryngeal; see the Introduction, p. 8. This process may best be described as follows: when the laryngeal disappeared after short vowel before consonant, the length of the syllable originally closed by the laryngeal was maintained by lengthening of the vowel; before then *e* had been coloured to *a* and *o* by *h₂* and *h₃* respectively. After the disappearance of the laryngeals these sounds were preserved and thus became independent phonemes; the timbre of the (ablaut) *o* was not changed by the laryngeals. One therefore finds:

$$\begin{array}{lll} eh_1 > \bar{e} & eh_2 > \bar{a} & eh_3 > \bar{o} \\ oh_1 > \bar{o} & oh_2 > \bar{o} & oh_3 > \bar{o}^{78} \end{array}$$

The colouring by *h₂* and *h₃* evidently took place in the proto-language, since the opposition between the three long vowels (*ē : ā : ō*) in different languages (Armenian, Greek, Latin, Albanian, Lithuanian) corresponds exactly.

More difficult is the question when the laryngeal disappeared from this position. It seems to me that the laryngeal was preserved down to the separate languages, for two reasons.

Firstly, the development of vocalic sonant (*r l ŋ ŋ*) plus laryngeal (Skt. *īr, ā, Lat. rā, nā*) is best explained by assuming that in this case the laryngeal was preserved down to the separate languages, an assumption that is also necessary for an explanation of the Greek development (ρη, *pā*, ρω etc.; Chapter XI). True, in the above the vocalic sonant was expressly exempted from this discussion, and it is conceivable that the laryngeal was preserved here for a longer period of time, but this cannot be rendered

⁷⁸ Even when the preceding vowel was already long (*ēh*) a long vowel naturally developed. As regards the colouring, *oh* could hardly become anything but *ō*, and *eh₁* had to become *ē*. In the case of *eh₂* and *eh₃* one could doubt whether *ā* and *ō* also developed here. The cases will have been few. The only possible case that I know is the basic form of ἠώς, *aurora*; these point in the first instance to **āusōs*, which could go back to **ēh₂usōs* or **h₂ēusōs*, for it is difficult to assume that **eh₂us-* would have given **āus-*.

probable. In PIE $r̥n$ were vowels like e and i and it cannot be seen why the laryngeal in eHC , iHC should have disappeared before that in $r̥HC$.

Secondly, the compositional shortening in Sanskrit indicates that in that language the laryngeal was still present in this position: $súṣuti$ - 'easy birth' as against $sútave$, which could be interpreted as vocalic shortening, but $carkṛtī$: $kīrtī$ -, which with vocalic shortening would have given $*carkīrtī$ -, can be understood only as $-kṛḥti$ > $-kṛti$ -, so that $súṣuti$ will also have to be explained in this way (Kuiper, *Die Sprache* 7.14-31; for further details of this shortening see p. 204 and p. 242 ff.).

This conclusion seems to be confirmed by Hitt. $pa-aḥ-ḥa-aš-mi$ [$paḥḥsmi$] 'to protect', root $*pā$ - < $*peḥ_2$ -, with $ḥḥ$ from $ḥ_2$. If $*peḥ_2$ > $*paḥ_2$ - had already become $pā$ - in PIE, Hitt. $ḥḥ$ would not be explicable. See Hendriksen, *Unters.*, p. 31.

Here too it may be asked whether there are indications of a third, o -colouring laryngeal. More important arguments for this can be found elsewhere (see Conclusions, p. 265 f.). Here the following may be remarked.

Just as it has been wondered whether a non-apophonic $ō$ existed, the same may be done for $ō$. For it is striking that some widespread roots, such as $*pō$ - 'to drink' and $*dō$ - 'to give', never display an e -phase (i.e. either $ē$ (eh_1), or $ā$ (eh_2)). This consideration has of course the weakness of every argument *e silentio*. For it is possible to explain any $ō$ by $o + h$ (cf. Introduction, p. 4, on Pedersen). Thus for instance $*gnō$ - in γινώσκω γνωτός, Lat. (g) $nōsco$ (g) $nōtus$, Skt. $jñātā$ -, OCS $znati$, where OE $cnāwan$ ($cnēow$), OHG $knāu$ point to $*gnē$ -, so that one must start from $ḡneh_1$ -/ḡnoh $_1$ -. The zero grade of this root is found in Lith. $pa-žintas$ 'known', Lat. $gnārus$ < $*ḡnh_1-ro$ - (instead of assuming $*ḡnā$ - as apophonic form of $*ḡnē$ -, like WH s.v.), the full grade I in Lith. $ženklas$ 'sign' < $*ḡenh_1-tlo$ -. The form $*ḡnoh_1$ - was therefore probably separated at an early stage from the original whole; hence (g) $nōtus$ $jñātā$ - < $*ḡnō-tó$ with full grade instead of $*(g)nātus$ $*jātā$ - < $*ḡnh_1-tó$ -, with the zero grade normal for this form. It must also be admitted that the number of forms with 'non-apophonic' $ō$ is only small.

One also finds $ō$ in forms where one would expect e -vocalism. For instance δίδωμι beside τίθημι ἵσταμι. The e -phase is also normal in Lat. $pōculum$, Skt. $pātram$ < $*pō-tlom$ /- $trom$.

A good argument in my opinion is found in Attic reduplication. But the difficulty in practice is that there are few cases with o - $ω$: ὀμώμοται and ὀωπέχεται (p. 119). Here the 'prothetic vowel' in ὀπέγω demonstrates a h_3 , and the second syllable displays the lengthening discussed here after the disappearance of the laryngeal, $ω$ < $e-h_3$, $*h_3me-h_3m$ - > ὀμωμ-. However, it is the question whether these forms are old. (The Attic reduplication of monosyllabic roots like ὄπωπα I consider to be analogic; p. 121.)

Whilst for oh_3 another result than $ō$ is not to be expected and oh_1 > $ō$ is, as far as I know, undisputed (e.g. θωμός A., Ar. from $*dheh_1$ -in τίθημι), the situation with

oh_2 is different. True, here — as so frequently — indisputable examples are rare, but in my opinion there are sufficient indications to allow of a conclusion. Everything suggests that here too the timbre of the o was not affected, any more than in the group h_2o , see p. 128. Consequently I do not see on what Kuryłowicz bases his supposition that oh_2 became \bar{a} (*Apophonie*, p. 173 *et passim*). For it is clear that in this supposition the ablaut \bar{a}/\bar{o} cannot be explained (cf. the parallel problem of \bar{a}/\bar{o} if one assumes $h_2o > a$, p. 128). He therefore assumes (*ibid.*, p. 186) that here the zero grade $\bar{a} > a$ of \bar{e} , \bar{a} and \bar{o} was the starting-point for new forms with \bar{o} , $\phi\eta\mu\acute{\iota} \rightarrow \phi\acute{\alpha}\mu\acute{\epsilon}\nu$ $\phi\acute{\alpha}\tau\acute{o}\varsigma$ $\phi\acute{\alpha}\sigma\iota\varsigma \rightarrow \phi\omega\nu\acute{\eta}$. However, this is impossible. In PIE h_1 h_2 h_3 were at first the zero grade of eh_1 eh_2 eh_3 respectively. In Greek, as has been demonstrated above (p. 70 ff.) and as will be shown on p. 182 ff, these became ϵ α o (which Kuryłowicz rejects). It follows from this that in the zero grade the opposition between the three laryngeals was preserved down to the separate languages and was never lost in Greek. Here, in Greek, a secondary \bar{o} (ω) based on $a < \bar{a}$, as meant by Kuryłowicz, is therefore excluded. The relation ω - $\bar{\alpha}$ ($\phi\omega\nu\acute{\eta}$ - $\phi\acute{\alpha}\sigma\iota\varsigma$) does exist, but only as $oh_2 > \omega : h_2 > \bar{\alpha}$. In Kuryłowicz' reasoning one therefore has

PIE $eh_1/oh_1/\bar{a}$ $eh_2/oh_2/\bar{a}$ $eh_3/oh_3/\bar{a}$ — Gr. $\eta/\omega/\bar{\alpha}$ $\bar{a}/\bar{\alpha}/\bar{\alpha}$ $\omega/\omega/\bar{\alpha}$.

Here we twice find $\omega/\bar{\alpha}$. In my opinion this is incorrect, since h_1 became ϵ and $h_3 > o$, so that — if one adheres to Kuryłowicz' $oh_2 > \bar{a}$ — the result is:

PIE $eh_1/oh_1/h_1$ $eh_2/oh_2/h_2$ $eh_3/oh_3/h_3$ — Gr. $\eta/\omega/\epsilon$ $\bar{a}/\bar{\alpha}/\bar{\alpha}$ $\omega/\omega/o$,

in which $\omega/\bar{\alpha}$ does not occur.

Apart from these considerations, such a series of analogic formations is improbable. (This objection applies to the whole — more recent — view held by Kuryłowicz, who postulates so extensive a system of analogic transformations that these can no longer be accepted; cf. p. 206, 212.)

The following may be mentioned as indications of $oh_2 > \bar{o}$:

With the stem $\beta\bar{a}$ - of $\xi\beta\eta\nu$ belongs $\beta\omega\mu\acute{o}\varsigma$, $*g^uoh_2-mos$; for the o -vocalism cf. $\theta\omega\mu\acute{o}\varsigma$ *supra* and for instance $\delta\gamma\mu\acute{o}\varsigma$ from $*h_2o\gamma mos$, p. 128.

Mention was already made above of $\phi\omega\nu\acute{\eta}$ from $\phi\bar{\alpha}\mu\acute{\iota}$, $*bho\bar{h}_2-n\bar{a}$. For the old o -vocalism cf. $\pi\omega\nu\acute{\eta}$, Av. *kaēnā*, OCS *čēna* from PIE $*k^uoi-n\bar{a}$. However, a different analysis was defended by Cuny, *Mélanges Boisacq* 1 (1937) 227-331: it contains the suffix $-on\bar{a}$ and $*bheh_2-ona$ became $*bha(h_2)on\bar{a} > \phi\omega\nu\acute{\eta}$. However, this suffix (Schwyzer, p. 490) occurs in the names of implements ($\delta\theta\acute{o}\nu\eta$, $\sigma\phi\epsilon\nu\delta\acute{o}\nu\eta$, $\beta\epsilon\lambda\acute{o}\nu\eta$, $\pi\epsilon\rho\acute{o}\nu\eta$) and in abstracts ($\acute{\eta}\delta\acute{o}\nu\eta$, $\alpha\upsilon\delta\acute{o}\nu\eta$; Skt. *svādāna*- does not contain an element $-on-$, since this would have given $-ān-$). $\phi\omega\nu\acute{\eta}$ could belong to the first group, although these seem to be words of non-IE origin (cf. the difference in accent with the second group and with $\phi\omega\nu\acute{\eta}$). However, if one starts from $*bheh_2-ona$, the evidence remains practically the same, for, if it is assumed that h_2 coloured an adjoining o to a , one gets $*bha\bar{h}_2an\bar{a} > *φ\bar{a}ν\bar{a}$. (As stated above, the problem of the development of h_2o is in principle the same as that of oh_2 .) In that case one could postulate a recent formation; as $*φ\bar{a}-on\bar{a}$ in Doric would have given $*φ\bar{a}ν\bar{a}$ (Lejeune, *Traité*, p. 235), only $*φ\bar{a}-on\bar{a}$ could then still be considered. Consequently, of greater importance here than $\phi\omega\nu\acute{\eta}$

is φωνέω, which is not derived from φωνή (cf. Schwyzler, p. 720 n. 10). It will be a denominative, but then derived from a stem φωνε/o-, which was lost in later Greek; this points to great age for the stem φων-, and makes it improbable that it contains an element -on- (-one/o- beside -onā is very rare: only the in my opinion dubious cases θρόνος κλόνος χρόνος, Schwyzler, p. 490,5). (*Bho \bar{h}_2 -nā is now also given by Chantraine, *Morph.*², p. 6.)

The word for 'ear', which in part has o-vocalism (οὔς, ὠς) and in part a-vocalism (Lat. *auris*), seems to me to be a clear case. If the interchange ou/au is not automatically accepted for the proto-language one has to start from basic forms like *o \bar{h}_2 us- (nom.), e \bar{h}_2 us- (or * \bar{h}_2 ous-, \bar{h}_2 eus-; perhaps with long o; for e/o in a neutral word cf. γόνυ: Lat., Hitt. *genu*) and assume that the \bar{h}_2 did not change the timbre of the o. Ruijgh, who does not do the latter, is obliged to consider the existence of two different roots, * \bar{h}_2 eu- and * \bar{h}_3 eu- (*Etudes*, p. 58 n. 54).

Ἄκωκή may also contain o \bar{h}_2 ; see p. 125 f.

Another case in which one cannot accept Kuryłowicz' explanation by means of analogy is the root *pā-/pō- 'to protect': Lat. *pāscō pāstor pābulum*, Hitt. *pa-aḫ-ḫa-aš-mi* [*paḫḫšmi*], Goth. *fodjan* — πῶς ποιήν (cf. πατέομαι, Frisk s.v.).

Other forms cited from Greek are θήγω (θάγω) — τέθωκεται τεθύμωται and τεθωγμένοι beside τεθαγμένοι. (If these forms are old, the ω must have been introduced from elsewhere, since in the middle one expects zero grade.) Cf. Frisk s.v. *θώσσω.

The analysis of the ending 1 sg. pres. of the thematic verbs -ō as -o- \bar{h}_2 , with \bar{h}_2 identical with that in 1 sg. perf. -a < - \bar{h}_2 -e and 1 sg. midd. -ai < - \bar{h}_2 ei also fits into this picture; see p. 133. See Add.

To demonstrate laryngeal after vowel by means of Greek material on other grounds than the compensatory lengthening discussed here is possible in only a few cases, if we leave the type *dhe \bar{h}_1 -/dh \bar{h}_1 - out of consideration. For Indian the explanation of the (t)h in *tī-ṣṭh-ati* by the laryngeal from the root *ste \bar{h}_2 - in *sti-st \bar{h}_2 -eti may be recalled here.

In the present reduplication one finds lengthening of the i, Skt. *īyarti* : *īrte* from * \bar{h}_3 i- \bar{h}_3 erti : * \bar{h}_3 i- \bar{h}_3 rtoi,⁷⁹ *ájati* : *íjati*. An example of this is found in Greek in *ιάπτω* : **ίπτομαι*. More of a problem is formed by *ίχανάω* (Hom.), Skt. *íhate* 'to crave, yearn'; the cognate *ἄχην* (Theocr., *ἄχηνία* A.) 'poor', Av. *āzi* 'craving' will go back to * \bar{h}_2 e \bar{h}_2 g \bar{h} - and therefore *íhate* will go back to * \bar{h}_1 h \bar{h}_2 g \bar{h} -. See p. 129.

The stem *ὀπιπ-* seems to go back to *opi- \bar{h}_3 k u -, *ἐνίπη* to *eni- \bar{h}_2 k u - (p. 129).

The lengthening in Attic reduplication was already mentioned above (*ἐληλουθ- < * \bar{h}_1 le- \bar{h}_1 loudh-).

A category that was not yet discussed earlier is the augment in words that have 'prothetic vowel', such as *ἦειδε ἦριπε* from e-HC-. The fact that a PIE basic form

⁷⁹ This form would perhaps have given **hih \bar{h}_1 rtoi* > **iy \bar{r} te*. In that case the *ī* will stem from the 3 pl., **hih \bar{h}_1 r \bar{h}_1 toi* > *irate* (for the structure cf. **dh \bar{h}_1 gh \bar{h}_1 tós* > *ἑνῆτός*, not **dh \bar{h}_1 gh \bar{h}_1 tós*).

is concerned here is demonstrated by Sanskrit, e.g. *ānaṭ*, from the root *naś-*, from **e-ḥ₁nek-t*.

From the stem **bhū-* one finds du. ἔφῳτον, Skt. *ābhūtam*, where the laryngeal is evident from the disyllabic root in Skt. *bhāvitum*, **bheṃh-/bhuḥ-*.

In this way disyllabic root is demonstrated for ἁϋμός by Skt. *do-dhavī-ti*, *dhavītram*. See p. 186. Hitt. *tuhḫuwai-* ‘smoke’ etc. probably belongs with this (Friedrich, *Erg.h.*, p. 2 s.v.).

Πῖαρ, πῖαιρα, Skt. *pīvarī* seems to go back to **piḥ-u-er-*, of which the full grade **pei-h-* is perhaps found in Skt. *páyate* ‘to be blown up’, and the stem II **pi-eḥ-* in *pyáyate*. The zero grade *pipyúṣī* < **pi-piḥ-us-iḥ₂* would have had to have lost the laryngeal in compounds.

In the latter cases one is therefore concerned with the zero grade of disyllabic roots with *i*, *u* as second consonant; those with *r* *l* *ṛ* *ṛ* (zero *CRHC*) are discussed in Chapter XI.

An example from declension is the genitive of the *ja*-stems. This is the type ὀρόγυια *ὀργυιάς (p. 37), Skt. *devī devyāḥ*, of which the ending must have been nom. *-i-ḥ₂*, gen. *-i-éḥ₂-s*.⁸⁰

Another case of lengthening is the nominative of the type γλωχίς, of which the ending *-ίς* will go back to *-iḥ₂-s*.

Reference should also be made here to all stem II forms of the disyllabic roots (*TReH*), for which I refer to Chapter XI.

Finally, attention should be drawn to the fact that the development of *-e/oḥ* at the end of the word to long vowel is based on the principle discussed here; see for this p. 145f.

⁸⁰ The genitive here must therefore originally have had an acute accent, *-éς*, unlike the circumflex of the *ā*-stems, see p. 170; usually one reconstructs a circumflex here, e.g. Pedersen, *Cinq. décl.*, p. 30.

VII. BETWEEN VOWELS

Intervocally the laryngeal was lost, as everywhere else. Indo-Iranian forms in which the hiatus has been preserved demonstrate that this did not happen until the separate languages; see the Introduction, p. 9f.

As regards the colouring by the laryngeals, the same rules apply as stated in the previous chapter. Cf. $\delta\alpha\iota\tau-$ < $*deh_2i-t-$, p. 175, $\pi\omicron\iota\mu\acute{\eta}\nu$ < $*po\hbar_2im\acute{e}n$, p. 168.

The most frequent and clearest cases of intervocalic laryngeal are those where the laryngeal stands before *i* or *u*, which are dealt with separately in the following chapter.

It may also be asked here what happened to the group $-eh_2,3e-$. It has been demonstrated above that the laryngeal colours both preceding and following *e*. It is therefore plausible that here both were coloured, but it is equally possible that the colouring was confined to the tautosyllabic, i.e. following *e*. A case where this situation occurs is the declension of the \bar{a} -stems. The development of the genitive here may be imagined as follows:

- (a) $-éh_2-es > -áh_2as > -áas > -ãs$

But allowance must also be made for the following possibilities:

- (b) $-éh_2-es > -áh_2es > -áes > -ãs$

- (c) $-éh_2-es > -éh_2as > -éas > -ãs$

However, it should be borne in mind that, as the laryngeal was preserved intervocally until after the division of the proto-language, the development from the second to the third phase (in each of the lines of development stated) took place in the separate languages. Now, since in all cases the result of the contraction is the same ($-ãs$), it is more probable that $-ah_2as$ was the starting-point, since *ae* or *ea* did not necessarily become \bar{a} everywhere. (This may be doubted for Greek, for instance; cf. Lejeune, *Traité*, pp. 233-6, although these contractions are probably more recent.)

The question of the so-called temporal augment should also be raised here. In the case of verbs that began with *a*, this goes back to \hbar_2e- (p. 133 ff.), so that the augment form here (for instance) was $*é-\hbar_2e\acute{g}-om$. On the strength of the consideration stated above, one may therefore assume PIE $*á\hbar_2a\acute{g}om > Gr. áagon > \acute{\alpha}\gamma\omicron\nu$. In present stem forms and aorists *o-* will be mostly based on \hbar_3e- , so that for instance $\acute{\omega}\mu\omicron\sigma\sigma\alpha$, Skt. $\acute{a}m\acute{it}$, PIE $*é-\hbar_3em\hbar_3-$ > $*o\hbar_3om\hbar_3-$ may be reconstructed. (Verbs with \hbar_1e- or *e-* present no problems, since something other than $\tilde{e} < é(\hbar_1)e-$ is not imaginable.) In Indian one would expect traces of $\acute{a}\acute{a}-$, which are not frequent, however.

Where *i-* is present reduplication, this probably developed from *hi-h-*, e.g. $\lambda\acute{\alpha}\upsilon\omega < *h_2i-h_2eu-$. There is no trace of the forms $*\acute{e}-h_2i-h_2eu- > *ah_2ih_2au- > (\text{Gr.}) *ajau-$ (with h_1 and h_3 *ei* and *oi-*) to be expected. Greek has $\bar{\iota}$ - here, as in forms with ι - of a different origin as well as $\bar{\upsilon}$ - from υ -, $\lambda\acute{\alpha}\iota\nu\epsilon\tau\omicron$ (**is-*?), $\bar{\upsilon}\phi\eta\nu\alpha$. This $\bar{\iota}$ $\bar{\upsilon}$ must therefore have arisen on the analogy of the above-mentioned forms with long vowel from contraction (Schwyzer, p. 654f.). Here Indian has *ai au* (*ácchat* from *icchāti*, *áunat* from *unátti*, *árdhnot* from *rdhnóti*), of which the origin is not entirely clear; it would have to be further investigated whether the laryngeal is responsible for these forms of augment.

A rather complicated case is the genitive of $\pi\lambda\eta\theta\acute{\upsilon}\varsigma$. On the strength of the comparison with Lat. *plēbēs* (Pedersen, *Cinq. décl.*, p. 62f.), the original paradigm may be reconstructed as follows (Kuiper, *Notes*, p. 12-9):

sg. nom.	<i>*pleh₁dh-u-éh₁-s</i>
acc.	<i>u-éh₁-m</i>
gen.	<i>u-h₁-ós</i>
pl. loc.	<i>u-h₁-sú</i>
instr.	<i>u-h₁-bhís.</i>

In the genitive the laryngeal therefore fell intervocalically. In the nominative the weak stem before consonant, $-u-h_1-C > -\bar{u}C$, was introduced in Greek; in Latin the full grade stem, $-u-eh_1-C > -(u)\bar{e}C$, was generalized.

Another example from declension is the genitive of $\delta\omicron\phi\rho\acute{\upsilon}\varsigma$, of which the declension was **h₃bhréuhs* **h₃bhréuhm* **h₃bhruhós* **h₃bhruh₃sú* (Kuiper, *Notes*, p. 9).

Cowgill (p. 147) states as example $\pi\lambda\epsilon\acute{\iota}\sigma\tau\omicron\varsigma < *pleh_1-istos$. However, in that case this would have the full grade from the comparative, instead of the expected zero, **p_lh₁-istos*, which would have given **πελίστος*. See p. 174.

It is not clear whether $\lambda\acute{\upsilon}\omega$ originally had a laryngeal: $\beta\omicron\upsilon\lambda\bar{\upsilon}\tau\acute{\omicron}\varsigma$, Lat. *solūtus* (Skt. *lunāti*, 'to cut off, destroy', *lavitra-*?). The short vowel in present and imperfect may have developed antevocalically, but the forms $\acute{\epsilon}\lambda\bar{\upsilon}\mu\eta\nu$ $\lambda\bar{\upsilon}\tau\omicron$ seem old. Although the term appears old, the υ may be long in $\beta\omicron\upsilon\lambda\upsilon\tau\acute{\omicron}\nu\delta\epsilon$ (II 779 = ι 58) for the sake of the metre.

Cowgill is of the opinion that the adjectives ending in $-\alpha\acute{\omicron}\varsigma$ from substantives ending in $-\bar{a}$ may be explained as $-eh_2-i\bar{i}\omicron- > -ai\bar{i}\omicron-$. But after eh_2 one would expect $i\bar{i}\omicron$ (and not $i\bar{i}\omicron$). It is also the question whether the origin of this form must be sought in PIE. I do not see that the laryngeal theory offers new possibilities here. (For the problem see Schwyzler, p. 467, Lejeune, *Traité*, p. 145f., Buck-Petersen, *Reverse Index*, p. 44f., with lit.).⁸¹

There are two further special groups that belong to this category, viz. those with vocalic sonant r l η η before or after the laryngeal.

A case of *VHR* could be the imperfect of $\delta\rho\nu\mu\iota$, $*\acute{e}-h_3r-n-u-to$. However, here no

⁸¹ Ruijgh, *Etudes*, p. 212, assumes $-eh_2i\bar{i}\omicron- > -ayyo- > -a\iota\omicron-$, but does not explain the development $-eh_2i\bar{i}\omicron- > -ayyo-$ for the expected $-\bar{a}i\bar{i}\omicron-$.

conclusion may be drawn from ὄρνυτο with regard to the phonetic development, for this augment form may have been taken over from the aorist (**e-h₃er-*). In my opinion one might expect *eh₃r* > *oh₃r* > Gr. *oh₃or* > *oor* > *ōr*, ωρ. I do not know another case with this sequence. In Indian one has **h₃i-h₃rtoi* > *īrte*, where one could also expect **h₃i-h₃r-toi* > **iy₁rte*; however, here too an explanation by analogy is possible (see p. 168).

If the preceding vowel was *r* *l* *ŋ* *ŋ*, a special development took place, which will be discussed under the disyllabic roots in Chapter XI.

Double laryngeal disappeared intervocalically without trace. This formation may be supposed for the perfect of stems ending in laryngeal, e.g. **h₃me-h₃mo3-h₂e*, a form that would have given *ὀμωμοα (> *ὀμωμω, cf. δέιδω < *δε-δ₁o-ja) and was replaced by a κ-perfect. Sturtevant's idea that the κ developed from *h₂* is untenable; cf. Cowgill, p. 175 ff.

VIII. BEFORE *i/i*, *u/u*

If a laryngeal was followed by *i* or *u*, it depended on the further structure of the word whether that *i*, *u* functioned as a vowel or as a consonant. The same may occur in principle with *r l m n*, but I know no cases of this except those mentioned at the end of chapter VII, while *i* and *u* often occurred as enlargement of roots, also of roots ending in laryngeal.

This possibility of two different developments has been mentioned by Kuryłowicz, *Etudes*, p. 36 ff., e.g. Skt. *stāyú-* : *stendá-* from PIE **steḥ₂iú-* : **steḥ₂i-no-*.

The clearest case is presented by the root **pā-/pō-* 'to protect', **peḥ₂-/poḥ₂-*, from which one has *ποιμήν* < **poḥ₂i-mén* as against Skt. *pāyú-* 'guard, protector', *πῶϋ* < **poḥ₂i-u*. The non-enlarged root is found in Hitt. *pa-aḥ-ḥa-aš-zi* [*paḥḥšzi*] 'to protect' and Lat. *pāscō pāstor pābulum*. True, Gr. *ποιμήν* could also have developed from **πωμήν*, but the *ō(ω)* could only be explained by the improbable structure **poḥ₂iṃén*.

If *āi* in Skt. *stāyú-* *pāyú-* is to be regarded as a long diphthong,⁸² this should be strictly differentiated from the two other forms of long diphthong (as does Kuryłowicz, *Etudes*, p. 40), viz. that from lengthening and that from contraction. An example of the latter is the dative singular of the *o*-stems ending probably in *-o-ei* > *-ōi*. A lengthened diphthong may be seen for instance in the nominative singular **Dīēus*. One therefore has long diphthong:

- (1) from contraction e.g. dat. sg. *o-st.*, *-o-ei* > *-ōi*;
- (2) by lengthening e.g. nom. sg. **Dīēus*;
sigm. aor. **é-lēik^u-s-ṛi* > Skt. *árāikṣam*;
- (3) through laryngeal e.g. *eḥ₂i-V* > (in sep. languages) *āi-V*.

It is in this light that the rule that long diphthong before consonant, i.e. phonetically, loses its diphthongal element in PIE and becomes a long vowel must be seen. The last group of 'long diphthongs', which were the result of laryngeal, therefore do not occur before consonant as such, for they become — phonetically — short diphthongs (*ποιμήν*). And yet the rule is based for a part on these roots, owing to the fact that the enlarged roots before vowel (*eḥ₂i-V* > *āiV*) were compared with the non-enlarged roots before consonant (*-eḥ₂C* > *-āC*). Strangely enough, this again is not found sharply enough in Kuryłowicz, *Apophonie*, p. 257, where he states that it is 'plutôt

⁸² The definition of diphthong is not very clear-cut. See for the whole problem Meillet, *Introd.*⁸, pp. 105-25, in particular p. 110.

probable' that $\pi\omega\mu\alpha$ is the full grade without *i*-enlargement. For Gr. $\pi\omega\mu\alpha$ cannot come from $*p\tilde{o}i-$, $*peh_3i-$, since this would have become $*\pi\omega\mu\alpha$. PIE loss of the *i* in $*peh_3-i-m-$ is refuted by the type $\pi\omega\mu\eta\nu$.

That the second category of long diphthongs was preserved down to the separate languages is demonstrated by the examples given, Skt. *Dyáuḥ* (Ζεύς shortened from $*Z\eta\upsilon\varsigma$ in accordance with Osthoff's Law, Lejeune, *Traité*, pp. 188 f.). The accusative of this same word, Skt. *Dyám*, Lat. *diem*, Ζῆν (see p. 150)⁸³ suggests PIE $*D\tilde{i}\bar{e}m$, which will have arisen from $*D\tilde{i}\acute{e}um$ (with dissimilation in $-\bar{e}um$); $*D\tilde{i}\acute{e}um$ itself stands, after the nominative, for the $*D\tilde{i}\acute{e}um$ that would be expected.⁸⁴

The first group usually retains the diphthongal element too. The rule therefore has no general validity, but relates only to a few special cases.

The following forms are known of these roots (with for instance h_2):

$(eh_2 > \bar{a}C$	$\check{a}V$	\check{h}_2	$C - C: = \emptyset$	$C - V: \text{zero}$
$eh_2i > \bar{a}iV$	$\check{a}iC$	\check{h}_2i	$C - C: i$	$C - V: i$

Reference has already been made (p. 170) to the cognates of $\delta\alpha\iota\omicron\mu\alpha\iota$: Skt. *dāti-*, *dití-* < $*d\tilde{h}ti-$, *dyāti* < $*d\tilde{h}-i\bar{o}-$ or $*d\tilde{h}i\bar{o}-$; for $\delta\alpha\iota\omicron\mu\alpha\iota$ itself see below. It is the question whether $*d\tilde{i}-$ in Arm. *ti*, ON *tíme* 'hour, time' belongs here; this might be based on $*d\tilde{h}i-C > di\check{h}-C$, see below.

Πλέων πλέον is based on $*pleh_1-is-on$ (like $\pi\lambda\epsilon\acute{\iota}\sigma\tau\omicron\varsigma$ < $*pleh_1-is-to-$, of which the $\epsilon\iota$ stems from $\pi\lambda\epsilon\acute{\iota}\omega\upsilon\upsilon\pi$, see p. 171). Cf. Skt. *prāyas-* < $*pleh_1-i\bar{o}s-$, and *dēṣṭha-* with disyllabic *e* from $*deh_3is-$; cf. the Introduction, p. 10. In Hom. $\pi\lambda\epsilon\acute{\iota}\omicron\varsigma$ (for $\pi\lambda\eta\eta\varsigma$), Att. $\pi\lambda\acute{\epsilon}\omega\varsigma$, Arm. *li*, Skt. *prāyaḥ* 'mostly' we have $*pleh_1-i\bar{o}-$. The stem is that of $*pelh_1-/pleh_1-$ 'to fill' ($\pi\lambda\eta\eta\tau\omicron$, $\pi\lambda\eta\eta\theta\acute{\upsilon}\varsigma$, Lat. *plēbēs*, *plētus* etc.).

Beside $\vartheta\omega\sigma\theta\alpha\iota$ etc. (Frisk; formation unclear) $\vartheta\omicron\acute{\iota}\nu\eta\iota$ may go back to $*dheh_3i-$.

A separate problem is formed by the zero grade of these roots with *i*-enlargement, where one finds \bar{i} . As one would expect that in $ChiC$ the laryngeal would disappear without lengthening (see the following section), metathesis of \check{h} and i has been assumed here, as by Hammerich, *Lar. b. Son.*, p. 35. This solution is a dangerous one: the explanation given by Hammerich of Skt. *pūrṇá-* (from $*p\check{h}h_1r\check{n}a-$ < $*p\check{r}h_1na-$ < $*p\check{r}h_1no-$) and *ásrk*, *yákr̥t* (p. 37 ff.) already takes this principle too far. Even less happy seems to me the idea of Frei (*Cahiers Ferd. de Saussure* 16 (1958-9) 9 n. 35) that (for instance) $*p\bar{i}-$ (from $*p\bar{o}-$, $*peh_3-$ 'to drink') does not go back to $*p\check{h}i-$ but to the non-enlarged root $*ph_3-$, after which an 'i de liaison' appeared between the laryngeal and following consonant ($*ph_3-i-C$), which with metathesis gave $*pih_3- > *p\bar{i}-$. Apart from the fact that one would also expect such an *i* elsewhere, one would in that case have to explain the \bar{u} as zero grade of $\bar{e}u$, $\bar{e}hu$ by an 'u de liaison'. Here too metathesis is assumed.

This metathesis is not immediately convincing. It is not clear why before *e/o* the

⁸³ The original accent of $*D\tilde{i}\acute{e}um$ will, as in the nominative $*D\tilde{i}\acute{e}us$, have been an acute one. The circumflex in Greek is a result of the addition of the $-\alpha$: $*Z\eta\nu > Ζῆνα$.

⁸⁴ Cf. the discussion in Kuiper, *Notes*, pp. 38 f. and 68-70.

laryngeal would fall, but before *i* (and *u*) metathesis would occur. The difference in articulation could therefore be the sole cause of this, but one would like to find indications of such a phenomenon elsewhere. It can only be stated that the lengthening (in the *ī*) and the fact that *ī* does not seem to occur before vowel point to a group *-ih-C*. For the moment another solution is not known. It cannot be denied that there is a difficulty here, but I do not see that the old solution (Schulze's *ai* > *ī*) is better, as for instance Leumann (*Mus. Helv.* 14 (1957) 75 = *Kl. Schr.*, p. 260 n. 2) suggests. For, according to the old shwa theory, *a* would in all situations have become *a*, also in *ai* before vowel (even in Indian, where *a* normally became *i*; see below). There is no reason why *a* in *ai* before consonant would have become *i*. Here too an auxiliary hypothesis is therefore necessary, which finds no support elsewhere. (Moreover, the idea would fit straightaway into the laryngeal theory: *CḥiC* > *CiiC* > *CīC*.) However, the essential thing is that the laryngeal theory has pointed to the predominantly consonantal character of the *a*; it is therefore improbable that the laryngeal, which even interconsonantly did not always become a vowel, was vocalic in these surroundings (*CḥiC*).

A clear case is the root **dhē-* 'to suck, give suck', **dheh₁-(i-)*; **dheh₁-C*: Gr. θήλυς θηλή, Skt. *dhārú-*, Lat. *fēlare* (*fīlius*), Lith. *dėlė* 'bloodsucker' etc.; **dheh₁-i-C*: Skt. *dhenú-* 'milking', *dhenā* 'milch cow'; **dhī-*: Skt. *dhītá-*, Latv. *dīle* 'sucking calf'. Apart from the last one the following forms also present problems here: **dhi-* OHG *tila* 'woman's breast', Mir. *del* 'nipple'. This could continue **dh₁ī-i-* > **dht-*, but that would be in contradiction of the explanation given above of **dhī-*. Finally there is **dhāi-* (?) in Skt. *dháyati*, OCS *dojō*, Goth. *daddjan*. The δαίομαι mentioned above belongs to the same category. The form **dai-* of this can be explained in two ways: as **deh₂i-* (but in that case only before consonant, from which it could then have spread further) and as **dh₂ei-* (Kuryłowicz, *Etudes*, p. 65). A form **dhāi-* of **dheh₁-*, however, cannot be explained in that way, but *dojō daddjan* may go back to **dh₁oi-je-*; the vocalism of *dháyati* is unknown (so that **dh₁ei-* is possible). Such problems must be considered morphologically from case to case. The old explanation **dh₁i-* > **dhāi-* (in terms of the laryngeal theory **dh₁ī-*) should be rejected, since in this position the laryngeal was probably not vocalic. This emerges from forms such as Skt. *dyāti* 'to share', *syāti* 'to tie', from **dh₁-je-*, **sh-je-*, Kuryłowicz, *op. cit.*, p. 64; cf. for the latter form Hitt. *ish₁ianzi* (p. 86).⁸⁵ Moreover, this would also presuppose *ḥ* (*a*) > *a* for Indian, which does not have much support.

The long *i* is also found in the root of οἰρῶν 'ploughed furrow' (**seh₃ir-*): Skt. *śtra-* 'plough', *śtā* 'furrow' (**sh₃i-* > **sih₃-* ?).

The best-known case is the root **pō-(i-)* 'to drink', **peh₃-(i-)*. This form occurs only in Skt. *pāy-áyati* ('to cause to drink'). In addition one finds the non-enlarged root **peh₃-*, πῶμα, Lith. *puotà* 'drinking-bout', Lat. *pōtus*, *pōculum*, Skt. *pātram pātár-*. As the zero grade we find **pī-*, Skt. *pītá-* *pītí-*, OCS *piti*. The Greek forms have been

⁸⁵ Thus for Av. *xvāng* 'of the sun', having regard to ἡέλιος < **seh₂u-el-*, I would be more inclined to assume **shy-ens* than **suh-ens*, as Kuiper does, *Notes*, p. 34, n. 2.

interpreted by Leumann (*loc. cit.*). Comparing the ablaut δω-/δο- from δίδωμι, he starts from an interchange **pō-/pī-*, e.g. in the athematic aorist **e-pō-m* (Skt. *apām*) : **e-pī-mes*. It is assumed that these two stems can still be seen in Aeolic πῶσι : πῖσι. The thematic aorist ἔπιον is said to have had its starting-point in 3 pl. **e-pī-ent* > **ἐπιεν*. However, the reconstruction of this aorist seems to me to be based on too weak grounds. After all, parallel to δω-/δο- one cannot expect anything but (Gr.) πω-/πο- (**peh₃-/ph₃-*; or, as **pō-/pā-*, possibly πω-/πᾶ-). The interchange **pō-/pī-* can only be explained by an original system **pōi-(pōi-)/pī-*, but there is no indication of **pōi-* in the aorist. Thus, if πῶσι/πῖσι does indicate such an aorist, the latter must itself already be secondary. The same problem occurs in the present forms. Parallel to δίδωμι, Leumann assumes **pipōmi* **pipīmes*, of which he asserts that Skt. *pibati* is the thematic transformation. However, this transformation usually proceeds from the 3 pl., which in this view would therefore have been **pi-pāi-enti*, which in all languages would have become **pipaienti* (possibly **pi-pāi-nti* > **pipaienti*). It is clear that one must start from the root without *i*: **pi-peh₃-mi* **pi-ph₃-mes* 3 pl. **pi-ph₃-nti* > *pibati*. In this way the *b* < *ph₃* is also explained. The correctness of this explanation is rendered probable by the Vedic forms:

	act.	midd.
3 sg.	<i>pāti</i> (< <i>*pipāti</i> ?)	<i>pipīte</i>
3 pl.	<i>pibati</i>	<i>pibate/pipate</i>

The 3 sg. midd. must have been **pi-ph₃-toi* > **pipīte*; the long *i* is based on Indian lengthening, as in *punīte*. Here, therefore, the *p* did not become voiced, since *h₃* here did not stand before vowel but itself became vocalic.

The Sanskrit present forms thus point to **peh₃-/ph₃-*, from which the transition to the thematic declension also becomes demonstrable. However, forms like *pītá-*, πῖσι must ultimately go back to **ph₃i-*.

As stated, the original zero grade in **pō-*, **peh₃-* must have been **ph₃-* i.e. in the European languages **pā-*. There is no trace of this (for OCS *pojō* 'to cause to drink' cf. *dojō supra*). One therefore hesitates to take Gr. πω- for **ph₃-* (e.g. Leuman, *loc. cit.*). And yet it would be easy to understand that an original European **pā-* (< **ph₃-*, **pā-*) was replaced by **pō-* (or **pī-*), and Indian **pu-* (< **ph₃-*) by **pī-* (< **pih₃-* < **ph₃i-*), and that **peh₃-/ph₃-* was preserved only in Greek, where πω-/πο- (like δω-/δο-) conformed to the same ablaut scheme as ā/ǎ, η/ε. The forms with πω admit very well of this interpretation: ποτόν 'that which one drinks, drink' (ποτός 'drunk, for drinking', A., E.), πόσις 'drinking', ποτής 'drink' Il.; more recent πότος 'carousal' Cratin., X., πότιμος Hdt., Hp., ποτήριον inscr. ?700, Alc., Sapph., πότηρ 'drinking cup' E., πότις (πότης) 'drinker' Phryn. (Ar.); πόμα Pi. N. 3.79, Hdt., Hp. for πῶμα A., S., E. For the oldest stage πῖνον 'liquor' Arist. and πίστρῶ 'drinking trough' E. are not of importance in my opinion. These data indicate that ποτός (ποτόν) was the starting-point of a number of derivations and that ποτός and πόσις were the oldest forms of this group (still including οἶνοποτάζω Il.); πω- became

characteristic of the nominal forms and even $\pi\omega\mu\alpha$, the only Greek word with $\pi\omega$ -as against Skt. *pātār- pātram pānam*, was replaced by $\pi\acute{o}\mu\alpha$. In these two forms zero grade is normal and if $\pi\acute{o}\tau\acute{o}\varsigma$ ($\pi\acute{o}\sigma\iota\varsigma$) is compared with *pītá-* (*pītī-*), Lat. *pōtus*, Lith. *puotà*, it seems probable that $\pi\acute{o}\tau\acute{o}\varsigma$ continues an original **ph₃tó-*, which was replaced elsewhere by \bar{i} (for $\bar{ĩ}$, or u) and \bar{o} (for $\bar{ǻ}$) respectively. There is little to be said about the age of forms like $\acute{\epsilon}\pi\acute{o}\theta\eta\nu$ A., $\pi\epsilon\pi\acute{o}\sigma\theta\alpha\iota$ Thgn. (and $\pi\acute{\epsilon}\pi\omega\kappa\alpha$ A.). They could have been built on $\pi\acute{o}\tau\acute{o}\varsigma$. In this form $\pi\acute{\epsilon}\pi\omega\kappa\alpha$ is a Greek creation, having regard to the κ .

$\Pi\bar{i}\theta\iota$ Cratin. is in any case older than Aeol. $\pi\acute{\omega}\theta\iota$, since here zero grade is normal. However, there is no certainty about the age of the long i (Sanskrit has *pāhi*). The question is therefore in which forms **pī-* was original. It should also be pointed out that the 3 pl. of an athematic aorist would have been **e-ph₃-ent* (> $\acute{\epsilon}\pi\epsilon\nu$ with analogic ϵ for $\acute{\epsilon}\pi\acute{o}\nu$), a form that was not very clear and could easily be replaced.⁸⁶

An isolated case of laryngeal before u is $\beta\acute{o}\upsilon\varsigma$ < **g^uohus* (**g^uéh₃us?*); see Kuiper, *Notes*, pp. 32 ff.

Perhaps $\gamma\upsilon\nu\alpha\iota$, Arm. *kanai-k'*, has *ai* from *eĥ₂-i*.

We should also discuss here the words with $\alpha\upsilon$, $\alpha\iota$, Schwyzler, p. 347b. On the one hand borrowing is possible here ($\tau\alpha\upsilon\rho\varsigma$, p. 134), on the other hand, however, *-eĥ₂-u-* or *-ĥ₂eu-* may have been the origin.

In the first place there is the interchange with $\omega(v)$ in $\tau\rho\alpha\upsilon\mu\alpha$ A.: $\tau\rho\acute{\omega}(v)\mu\alpha$ Hdt., Hp. and $\theta\alpha\upsilon\mu\alpha$ Il.: $\theta\acute{\omega}\mu\alpha$ Hdt. $\theta\alpha\upsilon\mu\alpha$ has no cognates outside Greek. The supposition that $\theta\alpha\upsilon\mu\alpha/\theta\acute{\omega}(v)\mu\alpha$ goes back to two different basic forms (**dhau-/dhōu-*, Frisk s.v.) does not inspire confidence. If the connection with $\theta\acute{\alpha}\mu\beta\omicron\varsigma$ is correct, one finds the following stem forms side by side: $\theta\alpha\phi$ -? ($\tau\acute{\alpha}\phi\omicron\varsigma$ $\tau\alpha\phi\epsilon\bar{i}\nu$): $\theta\alpha\beta$ - (with prenasalization in $\theta\acute{\alpha}\mu\beta\omicron\varsigma$): $\theta\alpha\pi$ -? ($\tau\acute{\epsilon}\theta\eta\pi\alpha$): $\theta\acute{\alpha}\bar{p}$ -/ $\theta\omega(\bar{p})$ - ($\theta\acute{\eta}\beta\omicron\varsigma$ = $\theta\eta\bar{p}\omicron\varsigma$?, **θᾶῤᾤ* see Frisk s.v. $\theta\acute{\epsilon}\acute{\alpha}$, $\theta\alpha\upsilon\mu\alpha$, $\theta\acute{\omega}(v)\mu\alpha$).⁸⁷ This points to a non-IE word; see Kuiper, *Μνήμης χάριν*, I, p. 225.

⁸⁶ Recently Frei (*Cahiers De Saussure*, 16 (1958-9), 1-22, 17 (1960) 47-53 and 19 (1962), 87-91) has repeated the attempt to connect **pō-* with **āp-* 'water' on the strength of a reconstruction of a meaning 'to flow' for **pō-*. He now posits a root **h₂ep-* 'couler' > 'courant d'eau, rivière, eau' and connects this with **pō-*, **peh₃-* as **h₂ep-h₃-/h₂p-eh₃-*. This seems to me impossible, since the second form in Greek would have been **āpō-*. Skt. *páyate* is also taken here as **h₂pei-*, though semantically speaking it should preferably be left as **peĥh-* connected with $\pi\acute{\iota}\alpha\rho$ etc., see p. 169. The connection with *ab-* in European names of rivers ($\epsilon\bar{\alpha}\beta\omicron\varsigma$ $\pi\omicron\tau\alpha\mu\acute{o}\varsigma$, OBrit. *Abonā*, OIr. *abann* 'river') as **h₂eph₃-* (with $ph₃ > b$) with Skt. *āpi* 'water' is an unfortunate one, since in that very case Sanskrit does not have a b (for the European names of rivers see p. 135). Finally, as Frei remarks, one would expect not *pibati* but **fbati* (**h₂i-h₂ph₃-*; possibly **h₂pi-h₂p(e)h₃-* > **pib-*). His attempt at an explanation, which assumes that the laryngeal had already vanished or had disappeared by dissimilation with the following one, is not convincing: the first is at variance with *irte ijate* etc., and the second is an arbitrary assumption. The conclusion from this that the first laryngeal was $h₃$ again prohibits the connection with European *ab-*.

⁸⁷ The long article by Szemerényi, *Glotta*, 33 (1954), 238-65, in which he defends **dhmbh-/dhmsy-* as PIE basic forms, is not a happy one. It consists of a series of improbabilities, of which the following may be mentioned. The phonetic law *mbh > Gr. μβ* is (further) based on $\theta\rho\acute{\mu}\beta\omicron\varsigma$, of which, however, the μ is unexplained if it belongs with $\tau\rho\acute{\epsilon}\phi\omega$; if it does not, it loses its value; the same applies to $\pi\acute{\nu}\nu\delta\alpha\zeta$ as against $\pi\upsilon\theta\mu\acute{\eta}\nu$. The law is refuted by words like $\delta\omicron\mu\phi\alpha\lambda\acute{o}\varsigma$, see p. 74. The idea of foreign origin of these words is an obvious one, certainly in comparison with words like $\kappa\acute{o}\rho\upsilon\phi\omicron\varsigma$ — $\kappa\acute{o}\rho\upsilon\mu\beta\omicron\varsigma$ (with which $\kappa\acute{o}\rho\iota\nu\theta\omicron\varsigma$ is probably connected), where the m cannot possibly be interpreted as PIE

If τραῦμα is the original form, τρῶμα can be understood by the association with τιτρώσκω. In view of τορεῖν, the form τιτρώσκω seems to have a root **terh₃-* (p. 233), so that τραῦμα cannot have been derived from it. Boisacq places s.v. τεῖρω the following forms together: τρᾶ-(νής), τρη-(τός) τέρε-(τρον), τρω-, τρή-(βω) and τρῶ-(ω, -χω, -πάω). This would lead to **ter-h₁/h₂/h₃* (with **tr-h-i/u > tr-i/u-h-?*), so that **treh₂u-mh₃* > τραῦμα is possible, but such an interchange of enlargements is not willingly accepted.

If the analysis of these two words is correct, this shows how misleadingly loan words can be fitted into the framework of one's own language.

The old derivation of for instance τραῦμα from **trəu-* seems possible in itself, but contradicts the development *ai > ī, au > ū* assumed by Schulze. However, in the light of the laryngeal theory, having regard to the phonetic properties of the laryngeal (that is to say of the *ə*), a form **trh₁u-* is not probable: one expects here the laryngeal in consonantal function. For the development of **trh₂u-* (> **ταρυ-*) see p. 216.

For φάος < **φά-φος*, cf. Skt. *bhāti* 'to illuminate', a structure **bh₁h₂u-* is conceivable (since here the laryngeal is preceded by an occlusive and not a sonant), but it is more probable that the laryngeal was consonantal in this position too; v. *supra*. As a result φαν- (πιφαύσκω Il.) will be based on **bh₁h₂-eu-*.

A difficulty is formed by the connection of χάος χάσκω with OHG *giumo*, which points to *e*-vocalism, **gh₁h₁-eu-*; **ghē(u)-* in OHG *gēwon*.

A laryngealistic explanation for αῖος, Lith. *saūsas* (**seh₂us*) would imply that in **sh₂us-*, Skt. *śūska*, a development *hu > uh > ū* did not take place.

There are consequently various possibilities with these words with αυ αι. In a few cases this element may have developed from *eh₂u* etc., but only before consonant, otherwise one must start from *h₂-eu*, but only after occlusive (*CRheu-* would have given *CVReu-* in Greek). However, in both cases the *a*-colouring laryngeal must be demonstrated; in the other cases a phonetic αυ αι could not occur (τραῦμα not from τιτρώσκω, χάος not from **ghēu-*). Many of these words have no convincing IE etymology, so that borrowing may be envisaged, even if cognate forms are found in a few European languages (γλαινοί, χραισμέω, παίω (< **παφ-ιω?*), ραίβος, θαῦμα, καυλός (probably cognate with αὔλος; see Add.), παῦρος, ταῦρος, τραυλός, χαῦνος; χάος too?).

(an opinion shared by Frisk). The *m* of **dhembh-* is based on θάμβος; the fact that this has no *e*-vocalism has its parallels, but with zero grade one would expect **ταφος*. Szemerényi explains it as a derivative of θαμβέω, but this could only be explained as transformation of the intensive **θoμβέω* (according to ταφών). However, there is no parallel of such a transformation, so that in my opinion θάμβος cannot be explained from **dh(e)mbh-*. The perfect τέθηπα instead of the expected **τέτηφα* (the analogic η being accepted), is explained by aspiration interchanges like κιθών/χιτών, φάτνη/πάτνη, βάτραχος/βάθρακος, ἄκανθος/ἄχαντος (Lejeune, *Traité*, p. 50). However, these words all convey the impression of being of non-IE origin. It is highly improbable that the last form of a system ταφών — **τέτηφα* would have disappeared without trace, given the abundance of perfects with a stem ending in φ. Szemerényi's explanation of θῶμα as a personal venture by Herodotus on the (sole!) example of Ion. τῶτό as against Att. ταῦτό is, of course, entirely unacceptable. It may incidentally be remarked that there is no compelling reason to interpret the β in θῆβος as φ.

IX. AFTER CONSONANT BEFORE VOWEL

Laryngeal after consonant before vowel disappeared without trace in Greek, apart from possible colouring of following *e*. This development is evidenced by among others the Greek cognates of the two words celebrated in the history of the laryngeal theory, Skt. *pṛthúh* and *pánthāh*, of which the former was explained in 1891 by De Saussure.

The comparison of Lith. *platūs* with Skt. *pṛthú-*, Gr. *πλατύς* leads to the following reconstruction of the PIE paradigm:

sg. nom.	<i>*plóth₂-u-s</i>
gen.	<i>*pl̥th₂-éu-s</i>

This is given for instance by Kuiper, *Notes*, p. 55. In Sanskrit and Greek, therefore, the zero grade of the stem was generalized, and in Lithuanian the full grade. The *th* of Sanskrit was ascribed by De Saussure to the laryngeal in antevocalic position (*BSL* 35 (1891) 118). The corresponding feminine **pl̥th₂-u-ih₂* gave in Greek **πλατα(φ)ια* (Πλαταιαι), a form which was later replaced by *πλατεῖα*, with the full grade of the suffix normal in Greek (ἡδεῖα — *svādvi*). True, the phonetic development of **pl̥th₂-eu-ih₂* would probably also have been **πλατα(φ)ια*, but the ending *-eia* would probably have been analogically restored in this form, so that the form seems to go back to zero grade. Kuiper, *IJJ* 9 (1966) 224, recently published on the Indian forms. Greek has no trace of aspiration (for *πλάθωνον* see below).

In the same way Pedersen (*KZ* 32 (1893) 269; *Cinq. décl.*, p. 54) explained *pánthāh* (Lat. *pons*):

sg. nom.	<i>*pont-éh₁-s</i>	(Skt. <i>pánthāh</i>)
gen.	<i>*pŋt-ĥ₁-ós</i>	Skt. <i>pathás</i>
pl. instr.	<i>*pŋt-ĥ₁-bhis</i>	Av. <i>padəbīš</i> (Skt. <i>pathībhis</i>)

In Greek one finds traces of this paradigm in the words *πόντος πάτος* (the latter form could be the phonetic representation of the genitive). Here too there is no trace of the (antevocalic) laryngeal in Greek. (Cf. the Introduction, p. 9.)

None of the forms of **stā-*, **steh₂-* has aspiration in Greek, while this has become general in Indian. *Σταυρός* is of particular importance here if it goes back to **sth₂-eu-*, rather than to **steh₂u-*; cf. p. 177f.

The same may be found in *ὀστέον* as against Skt. *ásthi*, but here the original declension is less clear: **h₂óst-ĥ-i* **h₂st-ĥ-ei-s* Kuiper, *Notes*, p. 63, comparing

δοσρακον : ἀσπράγαλος, but these words, having regard to their suffix, seem more likely not to be IE; cf. p. 51; in that case there is no indication of \tilde{h}_2 . Hamp, *Word* 9 (1953) 135-41, thinks differently.

If Kuiper's connection (*Glotta* 21 (1933) 287 ff.) of κλοτοπεύω (only T 148, approximately 'to dawdle') with Skt. *śrathnāti śrñthati* 'to become soft, etc.' is correct, κλοτ- goes back to $*\tilde{k}loth-$. However, the structure of $*\tilde{k}l_n-eth-mi$ would be exceptional. For οπ see p. 194.

Also of importance here is μέγα. Pedersen, *Cinq. décl.*, p. 47 ff., has reconstructed the paradigm as follows:

sg. nom.	$*me\tilde{g}-\tilde{e}\tilde{h}_2$	(Skt. <i>mahā-</i>)
gen.	$*me\tilde{g}-\tilde{h}_2-ós$	Ved. <i>mahás</i>

In Gr. μεγα-(λο-) nothing shows the influence of the laryngeal.

Ἐγώ, Skt. *ahám* is unclear. There is no indication of a suffix $-hom$ (Kuryłowicz, *Etudes*, p. 53). The origin of the $-ω$ is not known. One might suppose $*e\tilde{g}-oh/e\tilde{g}-h-om$. There is no proof of aspiration by \tilde{h}_3 in Indian, which makes $*e\tilde{g}-eh_3/e\tilde{g}-h_3-om$ uncertain. Only if one were to start from $*e\tilde{g}h-\tilde{o}/e\tilde{g}h-om$ does ἔγω show that the laryngeal disappeared without aspiration in Greek.

Skt. *hānuh* as against γένος presupposes a laryngeal, $*g\tilde{h}_1-en-$, of which, however, there is no further indication.

Θυγάτηρ as against Skt. *duhitā* is a somewhat different case. As evidenced by the Indo-Iranian forms, we have here a paradigmatic interchange $*dhug\tilde{h}_2-t-/dhug\tilde{h}_2-t-$ (Kuiper, *Notes*, p. 21 ff.), i.e. interconsonantal laryngeal: in Greek, θυγα- in any case does not have the aspiration of Indian. See the Introduction, p. 8.

In the 3 pl. of athematic presents the laryngeal disappeared before the ending $-onti$, Skt. *punānti* < $*pu-n-h-onti$ as against *punāti punihī*. Corresponding to this are κάμνουσι < $*\tilde{k}m-n-\tilde{h}_2-onti$, τάμνουσι < $*tm-n-\tilde{h}_1-onti$, forms which facilitated the transition to the thematic declension.

Kuryłowicz has pointed out (*Pr. Fil.*, in particular pp. 209-14) that the apparent exceptions to Brugmann's Law are explained by the original presence of laryngeals. For instance *jāna-* from $*\tilde{g}on\tilde{h}_1o-$ (not $*\tilde{g}on-o-$, which would have become $*jāna-$). Consequently a laryngeal will also have disappeared in Greek γόνος. In this category there are also a number of compounds of which the second component displays the same phenomenon, e.g. *aja-garā-* 'goat-swallowing', with which the following comply in Greek:

δημο-βόρος (A 231; < $*-g^uor\tilde{h}_3o-$, connected with βιβρώσκω),
 εἰροκ-όμος (Γ 387), ἵπποκόμος (Hdt.; $*-kom\tilde{h}_2o-$),
 δορυ-τόμος (Π 633 etc.; $*-tom\tilde{h}_1o-$).

A laryngeal has also been lost from γένος βέλος (as against βέλε-μνον). Admittedly, apparent *aniṭ* forms of $*\tilde{g}en\tilde{h}_1-$ also occur (γέγαμεν), but these can easily be explained as analogic formations; see p. 244. The possibility that *seṭ* and *aniṭ* roots, i.e. roots with and without laryngeal as enlargement ($*\tilde{g}en-$: $*\tilde{g}en\tilde{h}_1-$), existed side by side

cannot be entirely excluded, but one may not avail oneself of it unnecessarily. It is a methodical requirement, in those cases in which the non-enlarged root cannot be imperatively demonstrated, to try to explain the existing forms on the basis of the disyllabic root before taking refuge in the *ultima ratio* of root variants in the proto-language.

Three cases are stated which are claimed to demonstrate that the laryngeal caused aspiration in Greek too in this position, viz. πλάθων, and the endings of the 2 sg. aor. pass. in -θης and the 2 sg. perf. (act.) in -θα.

It is by no means certain that πλάθων 'kneading board or tray' (LSJ Suppl.) belongs with πλατύς (and therefore has θ < th₂). WP II 63 connects it with *pelā-, which is hardly more convincing phonetically (πλᾶ-θ- < *plh₂-dh- is impossible; see p. 245). Cf. πλακοῦς 'flat cake' and πλακερός 'πλατύς, broad'. Non-IE origin must be considered: firstly many words for kitchen utensils are Mediterranean and secondly many words ending in -ων are non-IE (Schwyzer, pp. 489 f.).

There remain the two endings. The connection of 2 sg. aor. pass. -θης with Skt. -thās is probably incorrect. Within Indo-Iranian -thās stands alone as against Iranian -ha, -sa < *-so, so that Indian innovation (though probably building on an ending with t(h)) seems self-evident. In Greek there is no indication that -θης is older than the remaining forms of this series (-θην, -θη etc.). One finds θη beside an older η-series in intransitive-passive verb forms. The θ occurs as present formant. Cf. Meillet-Vendryes, *Gramm. comp.*, p. 215, Prévot, *L'aoriste passif en -θην*, Benveniste, *Origines*, pp. 188-210, in particular pp. 196 ff.

On the other hand, the comparison of 2 sg. perf. act. -θα with Skt. -tha is indisputable. Hitt. 2 sg. pret. -ta will, in view of the parallel form -ti in the present (which must go back to *-thi (-thei?), since PIE -ti would have become -zi), have a laryngeal. PIE -th₂e gives Skt. -tha, but Gr. -θα would be at variance with the foregoing. Kuryłowicz explains -θα by *-τα after φθχ, comparing the generalization in Gothic of -t, which was phonetic after spirant (s, f, h). This is not a convincing explanation, since -θα is found exclusively after σ (starting from οἶσθα and ἤσθα). According to Frisk, "Suffixales -th- im Idg." (*GHÄ* 42 (1936) 2.42 f.), the θ is on the analogy of -θι. The latest to write on this was Cowgill, pp. 172 f. (-σθα after labial and velar became -σθα).

The question of the *tenuis aspiratae* in general or of the correspondence of Gr. φθχ with Indian *ph th kh* cannot be discussed here.⁸⁸ For *s + tenuis aspirata* at the beginning of the word see Hiersche, *Unters.*; for Greek pp. 176-231.⁸⁹ But, whatever the explanation of -θα may be, the cases mentioned leave no doubt that the laryngeal after consonant before vowel disappeared without trace in Greek, possibly after colouring following *e*.

⁸⁸ Κόγχος, which has been connected with Skt. *saikhā-*, will be non-IE, in view of κόχλος, Kuiper, *IJ*, 4 (1960), 245, n. 45. The form ὄνυχ-, Skt. *nakhā-*, mentioned by Schwyzler, p. 298, in this connection belongs to another category, since here the other languages point to *gh*, OHG *nagal*.

⁸⁹ It is striking that a very large part of the Greek material discussed by Hiersche seems to be of non-IE origin.

X. BETWEEN CONSONANTS

The majority of the cases of laryngeal between consonants are found in the so-called disyllabic roots (*TeRH-C*). Here the preceding consonant is usually a sonant, as a result of which complications occur in the zero grade (*TRH-C*). It therefore seemed best to discuss the disyllabic roots as a whole in a separate chapter (Chapter XI). The result is that most of the cases that belong in this chapter will be dealt with in the next one, so that the problem discussed here must be viewed in its relation to the following one. Consequently no conclusion can be given here; this may be found in the final conclusions, p. 265.

Here, then, we shall confine ourselves to those cases forming no part of a disyllabic root; usually an occlusive precedes them. The laryngeal in the position stated is usually represented by a vowel in Greek. The question that must be asked here is whether one must start from consonantal or vocalic laryngeal in the basic language. Thus Iranian points to a paradigmatic interchange of \hbar_2 and $\tilde{\hbar}_2$ in the basic word for πατήρ; Introduction, p. 8. It must therefore be asked whether the Greek α is based on generalization of $\tilde{\hbar}_2$ or whether the \hbar_2 was vocalized phonetically. That the latter was the case is evidenced by the disyllabic roots (*TeRH-C*; see p. 227 ff.) and for instance $\epsilon\rho\acute{o}\varsigma < *ish_1r\acute{o}s$ (*infra*). However, there are indications that the consonantal laryngeal was not always vocalized in Greek ($\iota\rho\acute{o}\varsigma$). It goes without saying that $\tilde{\hbar}$, which was a vowel in the proto-language, was a vowel in all languages.

The vowel that represents the laryngeal is an i in Indo-Iranian and an a in the other languages;⁹⁰ Greek, however, retained the original opposition between the three laryngeals and has $\hbar_1 > \epsilon$, $\hbar_2 > \alpha$, $\hbar_3 > \omicron$. To demonstrate this is one of the principal objectives of this chapter and the next one, while the question should also be considered of whether all dialects display the same development here.

The material that contradicts this view is very scanty (Schwyzer, pp. 340f.). The connection between ματεύω μαίομαι (μαιμάω?) and μῶμαι is too uncertain to be able to serve as an argument. (Moreover, μᾶ- cannot go back to $*m\hbar_2$; see p. 245.) The connection between σαχνός (Gal.) 'tender' (κρέα) and κατασώχω (Hdt.) 'to rub to pieces, pound' cannot offer any argument. For in general ω/α is no proof, since ω can be an apophonic form of \bar{a} which may not be known (in this case $*sh_2gh-/so\hbar_2gh-$ is therefore possible); but the word does not have any etymology at all. For χατέω

⁹⁰ In Germanic u (see p. 187) sometimes appears, which is left out of consideration here.

χατίζω (Hom.; χάτις χάτος Boisacq, Schwyzler do not occur, only χατίς· ἐπιθυμία, χρῆσις Hsch.) a connection with *χῆτος (χῆτει Hom.) χῆρος is, however, self-evident. But it is impossible to connect these words with χάος, since this seems to have a stem χαφ-/χαυ-. In that case the origin of the η of *χῆτος is also unknown (unless it is assumed that these words have the root in common). The connection of ἄβρός with ἥβη is semantically possible but formally difficult: Lith. *jegà* would suggest **iēh₁-g^u-*, but in that case one would expect **iēh₁g^u-* > **iēβ-* rather than **iēg^u-* in the zero grade. It therefore seems more probable that one has to start from **iēg^u-/iēg^u-*. Cf. p. 246. For γλώσσα γλάσσα see p. 246.

Some aorist forms with α in the root, also where the full grade has ē, seem to present a difficulty here. Of the type πῆγνυμι ἐπάγην (σῆπω, τήκω), πτήσσω ἑπτακον only μηκάομαι μακῶν could go back to **mē-*. But here and in the case of ῥήγνυμι ἑρράγην and τμήγω τμάγεν with η < ē/ǣ after sonant, the zero with ǣ does not go back to **mrh₁g-* (etc.), since these forms would have acquired a long vowel phonetically (and in this way would have become equal to the full grade); see p. 245. The forms with ǣ must therefore be analogic and it is easy to understand that here a zero grade distinguished from the full grade was created secondarily. Most of these forms do not seem to go back direct to a PIE basic type.

The material showing *h₁* > ε, *h₃* > ο is likewise scanty.

The reading ὁσκεθής is too disputed to be reliable (see Frisk).

The interpretation of εὐθενέω (A.)/εὐθηνέω (h.Hom., Hdt.) is too uncertain to offer an argument here; see Frisk, I, p. 586f.

μέτρον from **mē-*, Skt. *māti*, cannot go back to **mēh₁trom*, since this would have given **μη-*. A form **mēh₁trom*, with vocalic laryngeal after sonant, is not probable. One must therefore start from **mēh₁-etrom*; cf. Ved. *dātra-* < **dēh₃-etro-*, *dhāna-* < **dēh₁-eno-*.

μακρός is difficult; μήκος may represent **mēh₂kos*, but **mēh₂k-* would also have been *mā-* (μη-). Lat. *mācer* cannot go back to **mēh₂k-* either (one would expect **māc-*). Av. *masah-* 'length', comp. *masyā*, superl. *masišta-*, cannot go back to **mēh₂k-* (this would have given **mis-*). Phonetically speaking the only possibility seems to be **mēh₂ek-* > **mak-* (in all languages), **mēh₂k-* > μηκ-ιστος. In that case Avestan would have generalized the full grade. However, the adjectives ending in -ro- usually have zero grade (ἐρυσθρός, ἀργός — Skt. *rjrá-*), and the neuters ending in -os full grade. The whole remains unclear.

It has already been pointed out that πο- in ποτός πόσις may go back direct to **pēh₃-*; p. 175ff.

δοχμός (Il.) 'aslant' is connected with Skt. *jihmá-* 'idem', despite the difficulty of the anlaut (< **žižhma-* < **dižhma-*?).⁹¹ The stem vowel must then go back to a laryngeal, **dēh₃gh-mo-* (or **dēghmo-*?). Assimilation from **δαχμός* is an arbitrary assumption: there are dozens of words with such vocalism and the same structure (Schwyzler, p. 492).

⁹¹ Is the laryngeal responsible for this unusual development?

A case of exceptional importance is ἱερός. The distribution of the various forms of this word in the inscriptions was investigated by Locher, *Unters.*, pp. 5-8. It was found that ἱερός occurs in Mycenaean (*ijero(jo)*, *ijereu*, *ijereja*, *ijerowoko*), Arcadian, Cypriot, Attic and Ionic (Western, Central, and Southern East Ionic — Miletus before 500 —); ἱαρός in Doric, NW Greek and Boeotian (probably from NW Greek) and Pamphylian (possibly under Doric influence); ἱρος on Lesbos and (ἱρός) in Northern East Ionic (Abdera, Thasos, Chios). Thessalian has ἱαρ- once, and for the rest ἱεο-.

The conclusion imposes itself that we are concerned here with a dialectically different development, in which ἱαρός belongs in West Greek, ἱρος in Aeolic (going from there to Northern East Ionic?) and ἱερός elsewhere. It must, however, be admitted that ἱρος cannot be shown in Boeotian and Thessalian and that Thessalian has ἱεο-, which would have to be ascribed to Ionic-Attic influence. Anticipating what follows, I believe that this material indicates that the dialects still had the form **ish₁rós*, that this developed to ἱαρός in West Greek and to ἱερός in East Greek, whilst ἱρος might be Aeolic, from where it spread to Northern East Ionic.

The aspiration, which is absent only in areas with early psilosis, shows *s*. The immediately preceding stage was therefore **iseros isaros isros*. Such an interchange of forms is very rare. However, one does find -αρος and -ερος side by side in *μαρός* Hom.: -ερός Call.; *βριαρός* Hom.: -ερός inscr. of Rom. period; *σκιαρός* Pi., Pl.: -ερός Hom.; *χλιαρός* Epich., Hdt.: -ερός Alc.; *πιαρός* Hp.: -ερός Hp. (forms after Locher, *op. cit.*, p. 13f.). The ratio for this interchange is not known. It is striking that all have -ια/ερος. This suggests influence of ἱερός/ἱαρός (so Schwyzler thinks, p. 482; cf. especially p. 243f.). Schwyzler traces the forms of ἱερός back to an old neuter, as with ὕδερρος Hp.: ὕδαρης Hp.: ὕδρος Il. from ὕδωρ etc. In itself this is of course possible, but the geographical-dialectal distribution is not explained in this way. This points to dialectally different development of one and the same basic form. That is confirmed by Ved. *iṣirá-* 'vigorous, lively'. The semantic side now forms no further problem. The Greek word, divided by W. Schulze, *Quaest.*, pp. 207 ff., into four etyma, is now interpreted as "worin sich eine besondere, über dem Menschen stehende 'Macht' wirksam erweist" (Locher, p. 64, with specifications such as "ausserordentlich stark" (of a town), "— bewegt" (of a river), "von unvergleichlicher Impulskraft"). This meaning is consistent with that of *iṣṇāti* 'to bring into violent motion'. The connection is established beyond any doubt by the corresponding connection in ἱερόν μένος and Ved. *iṣirēṇā mānasā* (instr.); for a recent view of this syntagm see Schmitt, *Idg. Dichterspr.*, pp. 88-90. The connection with *iṣṇāti* points to a disyllabic root **ish-*. This leads to the reconstruction **ishrós*, from which ἱερός can also be derived, provided that **ish₁rós* is assumed. The Aeolic form, which must go back to **isros*, has therefore lost the consonantal laryngeal. The same phenomenon is found in the Thracian river name⁹² Ἰστρὸς⁹³

⁹² For the connection with rivers cf. ἱερόν ῥόον Ἀλφειοῖο Λ 726, cf. Hes. *Op.* 566 and the use in connection with ποταμός κ 351 and Hes. *Th.* 788.

⁹³ Būga, *Rev. ét. slav.*, 6, 9f., derives *Istr-* from **Instr-*.

(Hes. *Th.* 339); for *sr-* > *str-* in Thracian (?) cf. Στρῦμων, which will stem from the root **sreu-* 'to flow'. Perhaps the river name *Isara* (Celtic?) also belongs here, though it may also belong to the European substratum (in view of the suffixes of the type *ar(a)*, *al(a)*, *am(a)*).

The Doric form ἱαρός thus presupposes $\bar{h}_1 > \alpha$. It will have to be examined to what extent Doric thus had a different development from the other dialects. It is conceivable that the α here came into being under the influence of the p .⁹⁴

ἄνεμος, which is entirely isolated in Greek and therefore may be mentioned here, is dealt with under the disyllabic roots.

The zero grade stem forms $\theta\epsilon-$ $\acute{\epsilon}-$ $\delta\epsilon-$ $\delta\omicron-$ are usually explained as replacements of * $\theta\alpha-$ etc. on the analogy of the full grade $\theta\eta-$ etc. However, there is no trace of the supposed forms ($\theta\acute{\epsilon}\mu\iota\varsigma$, $\theta\epsilon\sigma\mu\acute{\omicron}\varsigma$; $\acute{\epsilon}\nu\acute{\nu}\epsilon\sigma\iota\alpha\iota$, $\acute{\epsilon}\xi\epsilon\sigma\acute{\iota}\eta$, $\acute{\epsilon}\nu\epsilon\tau\acute{\eta}$; $\delta\epsilon\sigma\mu\acute{\omicron}\varsigma$, $\delta\epsilon\tau\acute{\eta}\rho$; $\delta\acute{\omicron}\sigma\iota\varsigma$, $\delta\omicron\tau\acute{\eta}\rho$; all in Homer); it is uncertain that $\delta\acute{\alpha}\nu\omicron\varsigma$ 'gift' Euph. belongs with $\delta\acute{\iota}\delta\omega\mu\iota$ (see Frisk). In itself this question cannot be answered. It should be seen against the overall picture: that the original opposition between the three laryngeals in Greek — perhaps with the exception of Doric — was preserved emerges from the 'prothetic vowel', Attic reduplication, the disyllabic roots and the cases mentioned above. In this situation it is quite certain that also in $\theta\epsilon-$ etc., $\delta\omicron-$ the ϵ and the \omicron are the direct continuation of the vocalized laryngeal and do not take the place of * $\theta\alpha-$ etc. * $\delta\alpha-$, of which developments there are no indications.

I see no phonetic basis for Cowgill's idea (p. 154) that \bar{h}_1 and \bar{h}_3 became ϵ and \omicron respectively only in the vicinity of sonants. As a counter-argument one can point to $\acute{\epsilon}\gamma\epsilon\acute{\iota}\rho\omega$ etc., see the list on p. 68 f., and the above $\pi\omicron\tau\acute{\omicron}\varsigma$ $\delta\omicron\chi\mu\acute{\omicron}\varsigma$ (and $\acute{\iota}\epsilon\rho\acute{\omicron}\varsigma$, where at least the preceding consonant is not a sonant).

Needless to say, this conclusion will not be used in Chapter XI, since it is itself based on that chapter.

⁹⁴ The connection with Celt. **isarno-* 'iron' (Gall. *Isarno-*, OIr. *iarn* etc.), from which the Germanic words have been borrowed, Goth. *eisarn* etc., encounters the difficulty of the long *i*. This could be explained only as Illyrian development of **ei-*, Pokorny, *KZ*, 46 (1914), 292. However, this remains an unverifiable hypothesis. Semantically speaking, Kuiper's interpretation of $\nu\acute{\omicron}\rho\omicron\pi\iota$ and $\epsilon\delta\eta\nu\omicron\rho\alpha$ (see p. 75 f. of this book), epithets of $\chi\alpha\lambda\kappa\acute{\omicron}\varsigma$, as 'full of vital energy', would be a neat parallel, for the meaning of $\acute{\iota}\epsilon\rho\acute{\omicron}\varsigma$ seems to have been about the same (*supra*).

XI. AFTER SONANT: THE DISYLLABIC ROOTS

In the sequence consonant — sonant — laryngeal special developments occur. Such a group is found most frequently in the so-called disyllabic roots. The problems that these forms present can best be discussed in their interrelation.

Attention was first drawn to the importance of these roots by De Saussure, *Mémoire*, p. 239 ff. A term of Indian grammarians is used to describe them: *seṭ* roots, as against the *aniṭ* roots ('with' and 'without *i*') on the strength of the comparison of Skt. *tāri-tum* : *dhār-tum*, *bhavi-tum* : *śro-tum* (*śro-* < **kleu-*).

Here the same pointless controversy prevails as referred to in a preceding chapter (p. 89ff.). Hirt reconstructs for these roots basic forms of the type **pelā-*; Benveniste (*Origines*, pp. 147-73), building on De Saussure's hypothesis of the consonantal *ə* (the laryngeal), operates solely with the historically demonstrable forms **pel-h₂-* : **pl-eh₂-*, parallel to **ter-s-* : **tr-es-*, which he regards as a biconsonantal root **pel-* with enlargement (*h*, *s*) or suffix (*eh*, *es*).⁹⁵ Thus, according to this view, the 'disyllabic' roots in PIE in no way differed from other three-consonantal roots, but the special development displayed by this group justifies a separate name; consequently the current nomenclature will be maintained, although it is therefore meaningless.

One of the main aims of this book is to demonstrate that the distinction between the three PIE laryngeals was preserved in Greek. Consequently it will be investigated in the following to what extent the disyllabic roots are of importance to this problem. They will therefore be classified on a basis of the nature of the laryngeal. There is the greatest agreement on the development of those with *h₂*, while these also form the largest group, so that it seems appropriate to begin with them.

A. DISYLLABIC ROOTS WITH *h₂*

As the first consonant of the disyllabic roots is usually an occlusive, and the second a sonant, they may be suitably symbolized by *TeRH*.

As stated, there is a large degree of agreement on the development of the disyllabic roots with *h₂*. For Greek one assumes:

⁹⁵ It is of course entirely pointless to say that there is an essential difference between these two (with suffix interchange *ek/k*, *en/n* etc. is possible, with enlargement (*k*, *n*, *t*) it is not), since the assertion can neither be proved nor refuted; cf. Kuiper, *Notes*, p. 6, n. 1.

full grade I
TeRh₂ > *TɛRa*

full grade II
TReh₂ > *TRā*

and with *o*-vocalism:

ToRh₂ > *ToRa*

TRoĥ₂ > *TRō*

In addition one finds *TRā* at places where one would expect a zero grade, i.e. *TRH*, while moreover a form *TaRa* is frequent. The last two forms will be discussed after the survey of the material (p. 189 ff.), but for clarity's sake the form which is regarded here as the original one (*TRĥ₂* and *T_eRĥ₂* respectively) has already been stated here and there.

A short survey of the representations found in the other languages is useful for what follows.

In INDIAN the full grade I appears as *TaRi*.⁹⁶ The *i* of this is sometimes long, but this is based on an innovation which is unimportant to PIE. The zero grade has *īr*, *ūr* < *rĥ ĩh*, *ā* < *ṛh ̃h*. The distinction between *i* and *u* in *īr/ūr* does not go back to PIE (at the beginning of the word only *īr*, after labials only *ūr*, *AiGr.* 1, p. 28 and Kuiper, *Die Sprache*, 7, p. 15 with n. 4). The forms *ām ān* have their *m n* possibly through analogy.⁹⁷ For forms corresponding to *TaRa* see p. 208.

IRANIAN has *TaR* for both the full grade I and for the zero grade (in Avestan this is written *arə*; the representation of PIE *r* is written here as *ərə*).

In BALTO-SLAVIC a trace of the laryngeal after sonant may sometimes be found in the stress. Lithuanian has here an acute, *ér* < *erĥ*, *ár* < *orĥ*, *īr/ūr* < *rĥ*, while PIE *r* became *iř*. The representation *īr/ūr* does not point to historical connection with Indian *īr/ūr*, as emerges from the fact that Iranian has an entirely different development (*supra*).

Serbian has in the zero grade *ř* < *rĥ*, *ũ* < *ĩh*, *ě* < *ṛh ̃h* (as against *ř ũ ě* < *r* etc.).

In GERMANIC the laryngeal was usually lost without trace (*ur* < *r* and *rĥ*), but sometimes appears as *u* (in circumstances to be further determined, see p. 153, 202).

CELTIC has in the zero grade *rā lā mā nā*, but also *ar al am an* (Lewis-Pedersen, pp. 4 ff.; the representation of the sonants is very complicated: one finds in part *ri li*, and in part *ar (ra) al (la)* and partly *em en*, partly *am an*, but not in all dialects in the same way). The type *ara* also occurs. (Cf. Watkins, *Eriu* 18 (1958) 85-101. Hamp, *Evidence*, p. 227 n. 2, doubts that *ar* etc. can be a phonetic representation of *rĥ*.)

LATIN has in the zero grade *rā lā mā nā*. The reduced grade seems to have had *ara*, and the full grade *era (ora)*, but the second vowel has in most cases either been weakened or entirely eliminated.

⁹⁶ For *ToRh* one would expect *TāRi*, but no case of this is known to me.

⁹⁷ Burrow's view, *Skt. Lg.*, p. 86, that *ṛh* became *ā*, but *ṛh* becomes *ān*, is in my opinion refuted by *dhvāntā-*.

1. MATERIAL FOR THE DISYLLABIC ROOTS ENDING IN \bar{h}_2

This survey is based on the material in Brugmann, *Grundr.*, I² 1, pp. 417-23 and 473-81, Hirt, *Idg. Gramm.*, 2, pp. 103-47, and Schwyzler, pp. 359-63, and more recent literature. It makes no claim to be exhaustive, although most of the material has probably been collected in this way.

There are only very few cases in which the second consonant of the root is not a sonant but an occlusive.

Whether σφαδῶζω 'to toss the body about, be excited' (A.) belongs here (Schwyzer, p. 341) is highly uncertain. Connection with σφεδανός and σφοδρός 'violent, vehement' is obvious, but attempts have also been made to involve σφενδόνη 'sling'. One could further compare σφένδαμνος 'maple' and σφόνδυλος (σπ-) 'vertebra', σφονδύλη (σπ-) 'an insect, a kind of weasel and (-ιον) a plant'. Both the form (prenasalization δ : νδ, σφ : σπ) and the meaning (σφενδόνη, σφονδύλη) then suggest a non-IE word; cf. Ernout-Meillet s.v. *funda*.

πετάννυμι Hom. has the forms πίτνημι (Hes. πίτνω), πέτασε, πέπταμαι, πετάσθησαν. The present πίτνημι corresponds to the Indian ninth class (De Saussure, *Mémoire*, p. 240, Benveniste, *Origines*, pp. 159 ff.), cf.

<i>pavi-tum</i>	<i>pu-n-ā-ti</i>	from	<i>*peṃh-</i>	<i>*pu-n-eḥ-ti</i>
πέτα-σε	πίτ-ν-η-μι	from	<i>*petḥ₂-s-</i>	<i>*pet-n-eḥ₂-mi</i>

(The question of the ι remains out of consideration here.) On the aorist πέτασσε, incorrectly analysed as πέτασ-σε (Chantraine, *Gr. Hom.*, pp. 409 f.), πετάννυμι was formed. The origin of the present forms may therefore be sketched as follows:

πίτνημι Hom.	(aor. πέτασσε ν Hom.) → πετάω Luc.
↓	↓
πίτνω Hes.	πετάννυμι Ag. → πεταννώω X.

(The original system is interspaced.) The perfect πέπταμαι (Il.) has the expected zero grade **pṭh₂-*. There is no reason why this form should be secondary (Schwyzer, p. 770, 6, and recently Frisk, II, p. 520; πέπλημαι etc. do not of course furnish proof, since here the second consonant is a sonant; the exceptional form therefore points much more towards great age, since its origin can in my opinion hardly be explained by analogy; one would then expect the stem form πετα(σ)- instead, which one consequently finds in πεπέτακα (D.S.), πεπέτασμαι (E.)). A derivative is πέταλον 'leaf'. Πατάνη 'a flat dish' (Sophr.) could be based on **petḥ₂-*, like Lat. *pateo*, if the connection with this root is correct: one may envisage a loan word here, cf. πλάθανον, p. 181. Assimilation from **πετάνη* (Schmidt, KZ 32.355 f.) is not probable, since words with *TeTa* are frequent (πέταλον, σφεδανός).

Entirely parallel is σκεδάννυμι (Thphr.). One finds (δια-)σκίδνημι, σκιδνάμαι

(Il.), σκεδάσω (Thgn.), σκεδῶ (Att.), σκέδασα (Il.), ἐσκέδασμαι (X.), ἐσκεδάσθην (Il.). Forms without initial σ- also occur. Derivative σκέδασις (Od.); it is not surprising that one does not find the normal zero grade here (*σκηδᾶ-?). And yet there is no indication of *skedh₂- in the related languages; these point rather to a present *sk(h₁)-n-ed-mi, con. *sk(h₁)-en-d-ō (Av. *sčandayeiti*).

To this group also belongs ἔπιτατο 'to fly' (aor.; Il.; πτάμένη *ibid.*). Coni. πτήται O 170. The present πέτομαι will go back to *peth₂-o-. However, in that case one must assume that the thematic vowel *e* has been restored analogically, for *h₂-e* would have given *α* (in Homer the forms with *ε* predominate; with *ο* only πέτονται and (ἐ)πέτοντο). The form πίνω (A.) = πίπτω 'to fall' is perhaps a remnant of the original nasal present. The latter form may have the long *ι* on the analogy of ῥίπτω, and further be based on *pi-pth₂-e/o-. For πότμος ποταμός see p. 240.⁹⁸

However, the great majority of the disyllabic roots have a sonant as the second consonant, representing a type *TeRH-*.

It cannot always be made out for certain whether one is concerned with a *seṭ* or with an *aniṭ* root. This is particularly difficult in the case of words isolated in Greek without convincing etymology. The material encountered in the literature will therefore have to be divided among a number of groups on the strength of the reliability of the interpretation, viz. as follows:

- (a) Non-IE words;
- (b) Words that have no disyllabic root;
- (c) Words of which the interpretation is very uncertain;
- (d) Words of which the disyllabic root cannot be demonstrated for certain;
- (e) Words practically isolated in Greek for which the other languages indicate disyllabic root;
- (f) Words of which various apophonic forms occur in Greek which indicate disyllabic root.

It follows from the nature of this classification that the division between these groups is not a sharp one. It will be clear that for the further discussion only the last two groups are of importance.

a. Non-IE Words

A number of words that are involved in the discussion do not have a convincing IE etymology and by their structure suggest that they have been borrowed from a non-IE language.

ἄμαθος (beside ψάματος Il.; ψάμμος μ 243 (Aeol. ψόμμος, LSJ Suppl.), ἄμμος Pl.). Although cognate with MHG *sampt* (OHG *sant*) a form PIE *samadhō- is not probable on account of the *a* in the stem, while ψάματος also cannot be so explained. The word seems more likely to be non-IE, cf. Kuiper, Μνήμης χάριν, I, p. 218

⁹⁸ For the semantic side of this connection see R. Schmitt, *Idg. Dichterspr.*, n. 301: the meaning 'to fly' originally in the present (imperfective aspect), 'to fall' in the aorist (perfective aspect).

with n. 34: **(p)sam-/sab(h?)* (cf. ψῆφος ψαφάρος, Lat. *sabulum*); Central European? Cf. in Krahe, *Spr. u. Vorz.*, p. 58, the elements *sal(a)-*, *albh-*, *am(a)-*, *-ma-*, with which a form *sabh(a)-ma-* corresponds in structure.

In this way θάλασσα beside δαλάγχαν· θάλασσαν Hsch. with interchange θ/δ and χ/γγ also points to non-IE origin (cf. Kuiper, *Μνήμης χάριν*, I, p. 225). (For an entirely different interpretation see p. 209).

γνάθος (Ion.-Att.; γναθμός Hom.) is connected by some with Lith. *žándas* < **gñh₂dh-*, but the form γνάθος cannot be explained by **gñh₂dh-* (see p. 245). Analogously κναδάλλεται κνήθεται Hsch. is connected with Lith. *kándu* 'bite, sting' positing a stem **konh₂d-*. But the comparison of γνάθος with κναθ- (cf. also κνάδοι· σιαγόνες, γνάθοι Hsch.) points with γ/κ and θ/δ to a non-IE language. Other members of this group are κνώδαλον (p 317) 'wild creature', κνώδων 'teeth on a hunting spear'. Κνώδαλον recalls κνώψ (Nic.), κινώπετον (Call., Nic.; cf. ἐρπετόν) 'venomous beast', κνωπεύς· ἄρκτος, ἐνιοι κνουπεύς Hsch., κυνοῦπες· ἄρκτος (sic). Μακεδόνες Hsch. Further members of this group are perhaps κνάπτω 'to card, comb (wool), full, mangle, tear', κνέφαλλον γνάφαλλον γνόφαλλον with κ/γ and interchange ε/α/ο, which can hardly be based on IE ablaut. For the further connection with -κναίω κνήν cf. ψαίω ψῆν (with which ψάμαθος is connected, *supra* s.v. ἄμαθος).

For the same reason the following group of words, which appear to have been derived from the same root, seem non-IE:

κέραφος — σκέραφος — σχέραφος
κερβολούσα — σκέρβολος
κέρτομος

Of the same kind is the interchange κόναβος : κόμπος 'din, clash'.

κνήκος 'safflower, *Carthamus tinctorius*' cannot be connected with Skt. *kāñcana-* as **kñh-k-*, since this would have given **kāk/c-* in Indian. Furthermore, OHG *honag* etc. can hardly be connected with this root. The meaning (the name of a plant) suggests borrowing.

κάλαθος 'basket' is connected with κλώθω 'to spin', which is not very convincing from the semantic point of view. Cf. for the suffix γύργαθος κύαθος λήκυθος and further κάνασθον κάναστρον 'basket'.

b. No Disyllabic Root

For a few words that are sometimes mentioned in this connection the related languages demonstrate that we are not concerned with a disyllabic root.

It is improbable that ταναός is based on a disyllabic root, in view of Skt. *tanvī*, not **tānī* < **tñhñ-iñ₂*. The word occurs in Homer only in Π 589 and in ταναήκης (only in ταναήκει χαλκῷ) beside τανυήκης and (μῆλα) ταναύποδα ι 464. Outside Homer its occurrence is also very limited, although a few other compounds with τανα- are found. The formation of the word is not clear. The comparison with Lith. *tinti* 'to swell, breathe heavily' should be abandoned in view of the meaning. However, the similarity to Corn. *tanow* < **tanawo-* is striking. One is reminded of the

incidentally also unclear Lat. *gravis* < *g^ur_eui- (as against *g^ur_eru- > βαρύς, *infra*); ταναφός thus from *t_eneμ-o-? According to Szemerényi, *Syncope*, pp. 157 ff., ταναφός is built on *ταναφja, the feminine of *τανύς. But in that case the masculine here would have been derived from the feminine at an earlier stage than κραταιός from *κραταια (cf. p. 249 n. 122), since otherwise one would expect *ταναιός. The demonstrable forms do in fact suggest this; besides the fact that the Celtic forms seem to go back in part to *tanawyo- (OIr. *tanae* etc.), and in part to *tanawo-, ταναφός also occurs in Mycenaean, *tanawa* 'slender' (description of wheels; see Chadwick-Baumbach, *Glotta* 41 (1963) 157-270 s.v.).

Nor are βαρύς and Skt. *gurú-* based on a disyllabic root, in view of Skt. fem. *gurvī*. Lat. *gravis* is unclear (*g^ur_eui-?), but in any case not from *g^ur_hui- (*g^ur_əui-; this would have given *grāvi). Skt. *gariman-* 'weight' is meaningless, since *-iman* was secondarily extended at an early stage.

γάλα γάλακτος (Il.) beside γλάγος (Il.), κλάγος· γάλα. Kṛṇṭes Hsch., γλακῶντες· μεστοὶ γάλακτος Hsch., γλακτοφάγος and Lat. *lac* point to *glak(t)-. A disyllabic root is therefore out of the question. It may be doubted whether this word is of IE origin.

c. Words of which the Interpretation is highly uncertain

The interpretation of a few words is so uncertain that they must be left out of consideration further.

That δάμαρ (Il.) goes back to the root *demh₂- 'to build' (Benveniste, *Origines*, p. 30) is not semantically convincing; moreover, *demh₂rt- (*d_hh₂rt-?) may perhaps have given δάμαρ, but Aeol. δόμορτις· γυνή Hsch. presupposes *dem₂t- instead. See Add. to p. 202.

Fraenkel, *Etym. Wb.*, disclaims any relation between δρᾶ- (δράω δρᾶμα) and Lith. *daryti* 'to make, do' (causative of *derėti* 'to serve') or *dárbas* 'work', *dirbti* 'to work'. There is no further indication of disyllabic root for the Greek word.

For δαρθάνω (Hom. only ἔδραθον) Skt. *drāti* on the one hand and OCS *drěmati*, Lat. *dormio* on the other hand could suggest *dr-eh₂- : *dr-em-* (OCS **drēm-*, Lat. **d_hm-*). In that case ἔδραθον supposes a third enlargement of this root, *dr-edh₂- (*d_h-dh-). There is consequently no reason to assume that this form ever had a laryngeal.

κέραμος 'potter's earth' has no etymology; the connection with κέρασαι is semantically weak.

The connection of τέραμνον (usually pl.) 'chamber, house' (the reading τέρεμνον is uncertain) with Lat. *trabs*, *trabes* 'beam, timber', Osc. *triībūm* [*trēbom*] 'domum, aedificium' (with *ē*), Lith. *trobà* 'building, house' (with *ā*) cannot be explained by IE ablaut. Celtic, OW *treb* 'habitation' and Germanic, OE *-þrep* have **treb-*. Cf. OBrit. *treb* 'division of the people', ON *þorp* 'small enclosure, crowd'. The possible connection between these words is, within PIE, unclear from the formal point of view.

ἀτέραμνος ‘merciless (Od.), hard’ (τέραμνον· ἀπαλόν, ἐψανόν Hsch.; τεράμων ‘becoming soft by boiling’ Thphr.) can hardly be connected semantically with τρᾶνής ‘clear, distinct’ (S.). The suffix -αμνο- may suggest non-IE origin, but analysis **terh₂-mno-* remains possible; further connection with Skt. *taruṇa-* ‘tender’ should then be considered.

d. *Words for which Disyllabic Root cannot be demonstrated*

For the following words allowance must be made for the possibility of disyllabic root.

χαλάζα ‘hail’ may be cognate with OCS *žlédica*, Slov. *zlěd* ‘glazed frost’ as **gh_elh₂d-*, **ghelh₂d-*.

χέραδος ‘silt, gravel and rubbish (brought down by torrents)’ has been compared with Lith. *grúodas* ‘frozen rubbish in the street’. Within Greek it may be connected with χαράδρα ‘torrent’ (= Heracl. χάραδος, Buck, *Gr. Diall.*, p. 373).

κέλαδος ‘loud noise, din’ has -(α)δος, like many other words indicating a noise, χρόμαδος (*infra*), ὄμαδος, ἄραδος, ροῖβδος, ὀρυμαγδός. Connection with καλέω (see p. 235) is possible only as **kelh₁-* + -αδος. The gloss κέλωρ· φωνή Hsch. and κελαρύζειν do not stand in the way of the supposition of a disyllabic root (**kelh₁-ōr/ kelh₁-r*, see p. 202; however, from **kelh₁-r* one would expect **κελερ*).

χρόμαδος (γενύων Ψ 688) ‘crashing sound’, χρεμετίζω (Il.) ‘to neigh, whinny’, χρέμπτομαι (E.) ‘to cough’ does not suggest disyllabic root if the last form belongs with the others. Χρεμετίζω may have a formative *et*, like *ed* in OE *grymettan*, *gremettan*, OHG *gremizzōn* ‘to roar’ (here, therefore, **gremh-et-* remains possible). For -αδος see s.v. κέλαδος.

στενάχω στοναχή (cf. καναχή) finds support for disyllabic root in Skt. *stani-hi*, *stanáyati* (< **stonhēyeti*), *abhi-ṣṭaná-* (< **stonhō-*, cf. ἀγαστονος μ 97). Whether the Gallic river name *Tanaros* belongs here is very dubious.

If the original meaning of φάλαγξ is ‘round piece of wood, trunk, log’ it could be cognate with Lat. (*suf-*)*flāmen* ‘clog, break’, from **bhlh₂g-s-*; Lith. *balžiena*, OHG *balko*, OE *bealca*, ON *bólkr* from Germ. **balk-* < PIE **bholh₂g-*? For Lat. *fulcio* < **bholh₂-k-* one should, however, bear in mind the objection of Ernout-Meillet that PIE did not have any roots with aspirate — voiceless consonant (*bh* — *k*). However, it is the question whether this also applies to a second enlargement. And yet one must consider non-IE origin for the Greek word, especially in view of the nasal in φαλαγγ-.

For τέναγος ‘shoal water, shallows, lagoon’ cf. Latv. *tīgas* (< **tingas*) ‘depression between two shallows’, Lith. *stingti* ‘to congeal’ (for the meaning cf. Skt. *styáyate* ‘to congeal’, *stiyā* ‘stagnant water’). However, it is not certain that *stingti* goes back to **stñhg-*.

A disyllabic root is suggested by ἐχάλασσα (h.Ap. 6; χαλάω ‘to slacken, loose; become slack, loose’). Beside χαλαρός ‘slack, loose’ one may perhaps place Sch. Pi. P. 9.38 χλᾶρὸν γελαῖν· προσηνὲς καὶ ἡδύ (as **ghl₂-* beside **gh_elh₂-*). Cf. Lesb. χόλαισι (Alc., = χαλῶσι) ἄχολος ‘without rest’; for the o see p. 223.

ἡρέμα 'gently, softly' (Pl., Ar.) perhaps belongs with Lith. *rĩmti* 'to be quiet'. The ἡ- then remains unexplained; if lengthened 'prothesis', one would have to assume **h₁remh₂-*. For an entirely different interpretation see p. 262.

βάραθρον, Arc. ζέρεθρον (with ζ < δ; δ in Hsch.), Aeol. βέρεθρον. The different development of the labio-velar (βα : δε) points to an original opposition between reduced grade and full grade, **g^u_rh₁-* : **g^uerh₁-*. One would prefer to ascribe the different forms to dialectal development (cf. p. 183 on ἱερός) (i.e. for instance **g^u_rh₁-* > δερε-/βαρα-), but there is insufficient support for this (see p. 259 ff.). If the laryngeal was *h₂*, then ζέρεθρον βέρεθρον must have been assimilated from **βερα-*. But it is also possible that βάραθρον stands for **βαρε-* < **g^u_rh₁-* if **r_hh₁* became αρε and not ερε: cf. p. 227 ff. The difficulty remains the same if one tries to attach a formative -εθρον to the disyllabic root: both *-h₁edhrom* and *-h₁dhrom* give -εθρον, both *-h₂edhrom* and *-h₂dhrom* give -αθρον. For the supposed connection with βιβρώσκω see p. 234. The connection with δέρη (Frisk) should be abandoned, on account of both the difference in meaning (δέρη in the first place 'neck') and the form (Aeol. δερα as against βέρεθρον); this word in any case does not have a disyllabic root, as emerges from Arc. δερφα.

It does not seem impossible, partly in view of the meaning, that the word is non-IE. For the structure of the word and the suffix cf. μάραθρον, Schwyzler, p. 533.1, κάναθρον, *ibid.*, p. 532.3, κμέλεθρον/μέλαθρον (p. 215 n. 107 of this book) and σπάλαθρον, *infra*. However, for β/δ(ζ) one would have to assume a kind of labio-velar in the substratum language. There are in fact various indications of this. These divide into three groups.

(1) Interchanges of labials, gutturals and dentals in substratum words.

(a) Interchange of labial and guttural: σπάλαθρον σπαύλαθρον σπάλαυθρον: σκάλαυθρον σκάλευθρον (v.l. σκάλεθρον); for α/αυ cf. ο/ου in δλόπτω : δλούφω (: λέπω) p. 42, and s.v. ἄλοξ, p. 40; the word — 'oven-rake' — has of course nothing to do with σπάλαξ 'mole' or σπάλαθρον 'a thorn bush'. Further (ᾱ)σπάλαξ (ᾱ)σπάλαξ : σκάλωψ (or metathesis?); Πυανειῶν Πανόψια : Κυανόψια; Πύδνα : Κύδνα, Πιερόν : Κιερόν; πόρνοψ πάρνοψ : κόρνοψ (a kind of locust), ?βράκαλον· ρόπαλον Hsch. For βλέπω/γλέπω, βλέφαρον/γλέφαρον (if these last two groups are cognate, they moreover display interchange π/φ), βλήχων/γλήχων dissimilatory loss of the labial element of the labio-velar is assumed (Schwyzler, pp. 298 f., Buck, *Gr. Diall.*, p. 75). For the last pair, however, this is out of the question, so that another explanation must also be considered for the other words; cf. the counter-arguments of Lejeune, *Traité*, p. 38 n. 2. Foreign origin seems obvious (for instance through the meaning of βλήχων: the name of a plant). In that case there is a good chance that βλωθρός/γλωθρός (despite West, see p. 215 f.) also belongs to this series. In my opinion an other instance is ὀφθαλμός, Boeot. ὄκταλλος, Dor. ὀπτί(λ)ος. Frisk's "mit altem κτ, analogischem πτ und expressivem φθ" does not seem to be the right explanation.

Note the accumulation of difficulties for IE origin in these words: λμ/λλ, λ/λλ, α/ι. For -αλμος cf. σχινδαλμός (for which the variants point to a substratum word: σχινδάλαμος, σκινδαλ(α)μός, σχιδαλαμός, σκινδαλ-εύω, σκινδυλεύω; see Hiersche, *Unters.*, pp. 215 f.); for α/ι cf. α/υ in the word just mentioned; the suffix υλ(λ) (beside which ιλ(λ) is to be expected, in view of ι/υ in these words, cf. -ι/υνθ-, p. 71) is frequent in substratum words (Schwyzer, p. 485).

(b) Interchange of labial and dental in substratum words: ἄμπυξ : ἄντυξ, σάμβalon : σάνδαλον, πεμφρηδών : τενθρηδών, ὀβελός ὀβολός : ὀδερός ὀδολκαί, Περμησσός (Πάρμησσος) : Τερμησσός, Παρνασσός : Τερνεσσός (the same as the preceding item?), Πευμάττιος : Τευμήσσιος (M. L. West, *Hesiod, Theogony*, pp. 153 f.), ?Βριτόμαρπις (LSJ Suppl. s.v.): -μαρτις.

(c) Interchange labial/guttural/dental in γέφυρα/βέφυρα/δέφυρα, for which Arm. *kamur-j* points to a substratum word on account of the interchange *bh/m* (Kuiper, *Μνήμης χάριν*, p. 213).

(2) The labio-velar that forms the basis of these substratum words may still be pointed to in Mycenaean: *qasireu* : βασιλεύς, *atorogo* : ἄνθρωπος (Kuiper, *loc. cit.*), *qeto* : πίθος. The form *qaratoro* is perhaps the above-mentioned σπάλαθρον. However, *karako* 'glākhōn' : βλήχων is striking. Cf. also the place-name *sukirita* 'Sugrita' : Σύβριτα: see the footnote in Chadwick-Baumbach, p. 245. Myc. *apuke* (etc.) 'ampuk-' also does not have the *q* expected from ἄμπυξ : ἄντυξ (for ἄμπυξ in relation to horses LSJ Suppl. now gives the meaning 'bit').

The suffix *on* (Schwyzer, p. 496,3; p. 426 Zus. with n. 4) seems to me also to be an element of the substratum language; it will have developed from *ok*^u. It is found in the names of animals, which certainly belong to the substratum (σκάλων, πόρνων/πάρνων/κόρνων/(ἄκορνός), πηνέλωψ) and in the name of peoples that do not have an IE etymology ('Ἀέροπες, Ἑλλοπες, Δόλοπες), and further in a number of words of which the meaning is unknown (ἦνων, μέρων, ?νῶρων) and perhaps in a few other non-IE words (ἄστεροπή (cf. p. 51), ?καλαῦρων). Chantaine, *Mél. Cumont*, pp. 121-8, draws attention to the fact that some names of peoples correspond to those of birds: 'Ἀέροπες, Μέροπες, Δρύοπες. His idea that the former were derived from the latter seems correct to me; cf. in Italy the *Piceni* (*picus* 'woodpecker' = δρύων), *Hirpini*, ?*Lucani*.

In my opinion *Αἰθίοπες* also belongs here, which therefore does not mean 'with burnt face' (as is still believed by Frisk s.v. αἶθω). This also emerges from the following consideration. The Thessalian name for a people *Αἰθίκες* is evidently a formal variant of *Αἰθίοπες* with the same meaning. Apart from the fact that here the meaning 'with burnt face' is much less obvious, this form is not explicable as a compound with PIE *ok*^u- (*h₃ek*^u-) 'face', for **h₃eidh-i-h₃k*^u — would have given **Αἰθίτες*, certainly in an Aeolic dialect. Here one must either assume a non-IE element *ok*^u, which was able to give Thess. κ, or another suffix (ίκ); in the latter case too it is probable that *on* is a suffix with about the same function and not PIE *ok*^u- 'face'. That in this word *on* developed from *ok*^u emerges from Myc. *aitijoqo*. Further one finds here *pokiroqo* ('*poikilok*^s'), which in my opinion contains the same suffix (cf. αἰθός : αἶθωψ). Cf. also *moroqoro* '?molog^uroi' : ?Μολοβοροί.

It may be this same suffix that is also found with a few perhaps IE stems, e.g. ἡπεροπεύω, κλοτοπεύω (p. 180).

(3) On the strength of the so-called complex signs in the Linear B syllabary (*two two dwe dwo nwa, tja rja rjo*) Palmer (e.g. *Interpretation*, pp. 38 ff.) assumed that the substratum language had labialized and palatalized consonants beside neutral ones, e.g. *k*^u : *k^l* : *k*. The most recent to publish on this was Lejeune, *Proceedings Cambr. Coll. Myc. Stud.*, pp. 135-49. See Add.

Many details of the original forms and their development (evidently differing

dialectally or regionally) still call for an explanation. However, this requires a much more detailed examination of the material.

Finally, for the interchange ϵ/α in βαρ-/ζερε- which can hardly be explained from IE, compare κμέλεθρον : μέλαθρον, σκάλευθρον : σκάλαυθρον, εὐλάκα : αὐλάχα (p. 40 s.v. ἄλοξ), Περμησσός : Πάρμησος, Τερνεσός : Παρνασσός, Φεκεδαμος : Ἀκάδημος (Φηεκάδαμος).

β ἄ λ α ν ο ς may be based on $*g^u_l h_2 n-$, but there is no clear indication of disyllabic root. Lat. *glans gland-is* could represent $*g^u_l h_2 n d-$. The Armenian form, which is the closest to Greek, *kalin kalnoy*, must have had a vowel *e* after the *l* and therefore cannot go back direct to $*g^u_l h_2 e n-$, since this would have become $*g^u_l h_2 a n-$ as early as the proto-language. However, without h_2 the suffix *-an(-d)-* can hardly be explained by PIE. Striking is the *d*-suffix in Latin, Slavic (RussCS *želudb* < *-rdb* < *-andi*) and Albanian (*lënd*), while Lithuanian has *gile*, without *n* and *d*. One must consider non-IE origin (for *n/nd* cf. for instance Kuiper, Μνήμης χάριν, p. 215 (-αμος/-αμβος), p. 216 (-ιν/-ινθ-) and p. 221 f. (θρῶναξ/*trond/t- in Slavic); for the semantic range cf. ἐρέβινθος, κύαμος, Lat. *faba*).

π ρ ᾱ ὄ ς (Pi.) will in the first instance go back to $*prāiú-$ (the hiatus from loss of *h* (cf. σῶς, p. 249) or *s* would already have disappeared). The root syllable may represent full or zero grade (cf. γραῦς, s.v. γέρας, p. 201), i.e. $*pr(e)h_2 i-$ ($*k^u r(e)h_2 i-$?).

e. Words for which Disyllabic Root can be rendered probable

λ ῆ ν ο ς, Skt. *ūrṇā*, Av. *varənā*, Lith. *vilna*, Serb. *vūna*, Lat. *lāna* all point to $*u_l h_2 n-$. If Arm. *gelmn* is based on $*u_l h_2 m n-$, the laryngeal must have disappeared. Strange is W. *gwlan*, explained as $*u_l a n a$; this form, however, is identical with $*u_l h_2 m n-$, for which one would expect the development *lā* in Celtic. MIr. *olann* has unexplained *o*. Kuryłowicz, *Apophonie*, p. 198, presupposes a compound form of $*u_l h_2 n ā$, i.e. $*u_l h_2 n ā$; cf. p. 242 ff.

ε ἰ ν ᾱ τ ε ρ ε ς 'wives of brothers' (Il.; εἰ- m.c.; ἐνατηρ inscr.), OLith. *jentė* EastLith. *intė*, Phryg. *ιανατερα*,⁹⁹ Lat. *ianitrices*, Skt. *yātar-* suggest a disyllabic root $*i_e n h_2-$. Greek and Lithuanian would continue $*i_e n h_2-$, Phrygian and Latin $*i_e n h_2-$, Indian, $*i n h_2-$. This ablaut doubtless stems from the declension, but the occurrence of three apophonic forms side by side is striking.

κ ἄ λ α μ ο ς has a disyllabic root, as is evidenced by Russ. *solóma*, Serb. *slāma* < $*k_o l h_2 m o s$. OPr. *salme*, Latv. *salms*, OHG *halm*, Lat. *culmus* have the same origin. However, there is no reason to assume that κάλαμος was assimilated from $*k_o l a m o s$, for there are various words with this vocalism, see p. 206. OW *calamennou*, NW *calaf*, has the same apophonic form as Greek; however, allowance must be made for the possibility that these words have been borrowed from Lat. *calamus* (which has itself been borrowed from Gr. κάλαμος).

Forms like $*k_o l h_2 m o-$ $*k_e l h_2 m o$ and $*p_e l h_2 m ā$ $*p_l h_2 m ā$ (in παλάμη and OIr. *lám*

⁹⁹ However, the form *ιανατερα* appears in a Greek inscription (from Lydia); J. Keil u. A. v. Premerstein, *Reisen*, I, p. 78, No. 166.

infra s.v. πλήσσω) seem to be thematizations of *m*-stems, having regard to the interchange in the stem vocalism. The clearest case of an old *m*-stem is the word for 'earth', Gr. χθών (cf. Kuiper, *Notes*, pp. 9 f., 86 ff.). Skt. *kṣāḥ*, Av. *zā* point here to an original nominative **ḡh₂ōms*.¹⁰⁰ The stem **ḡh₂om-* is found in χθον- and Lat. *humus* < **homos*; *e*-vocalism is found in OLat. *hemo*, stem *hem-on-*, Lith. *žėmė*, ORuss. *zemlja* and probably also Skt. *kṣāmi* (**ḡh₂om-i* would have become **kṣāmi*), and Phryg. ζεμελω. The zero grade in gen. Av. *zəmo*, Skt. *kṣmāḥ* (or rather *jmāḥ*, for which analogically *kṣmāḥ*? for *gmāḥ* see Mayrhofer s.v.) from **ḡh₂m-ós* and Lith. *žmuo* 'human being' < **ḡhm-ōn* and perhaps Phryg. Γδαν. The reduced grade is found in Goth. *guma* < **ḡh₂m-en-* and Gr. χαμα- and χθαμα- (χαμάδις χαμαί χαμαῖζε Hom.; χθαμαλός N 683 ι 25 ~ κ 196 λ 194 μ 101). Χθαμαλός is reminiscent of *humilis* and may go back to **ḡh₂mḥ-lo-*, cf. *similis* — ὁμαλός p. 208, where Greek has *o*-vocalism, like Latin in *humilis*; however, in both cases this may be secondary, after ὁμός and *humus*. The word for 'human being' therefore has the phases **ḡhem-* *ḡh₂m-* *ḡhm-on-* (*hemo guma žmuo* respectively). It is not clear whether **ḡh₂m-* has a place in the original declension of 'earth' itself, for which **ḡh₂óm-s* *ḡh₂óm-η* (*ḡh₂ém-?*) *ḡh₂m-ós* is, however, certain.

This does not throw much light on the declension of the above words: **kólh₂m* *kḗlh₂m-ós* (neuter?); **pḗlh₂m* (beside **plh₂m*) does not, however, seem to be an original nominative. Here too (as with χθών) one is inclined to assume that the three phases formed part of one paradigm (*Tólhm-* *Tḗlhm-* *Tlhm-*).

κνήμη (Dor. κνῆμᾱ), OIr. *cnāim* go back to **knām-*. If OHG *hamma* 'hollow of the knee, ham' belongs here as **konh₂mā*, both **kneh₂m-* and **knh₂m-* may be considered for Greek and Irish (for the ablaut see s.v. κάλαμος).

γέρανος 'crane' corresponds to Lith. *gėrvė* < **gerh₂-ū-*. The form **gḗrh₂n-* is contained in Gaul. (*tarvos tri-*)*garanos* '(bull with three) cranes', W. *garan*. Less clear are OHG *kran-uh*, Lat. *grūs*. (The verb is perhaps found in Skt. *grṇāti* 'to rustle, sing', *jaritár-* 'singer'.)

κόραξ is unclear. Comparison with Skt. *śārikā* 'magpie', Lith. *šárka* (Russ. *soróka*, Serb. *svrāka*) could suggest **kōrh₂-k-* (with Skt. *-orh₂-* > *-āri-*, if it does not have the suffix *-ikā*). But κόραξ κορώνη with the closest cognates Lat. *cornix* (*corvus*), tend to point more to an *n*-stem, **kōrón* *korn-ós*, so that κόραξ could be explained by **kōr-ḡ-k-*. However, Lat. *corvus* points to an *u*-stem (**kōrós* *kory-ós*). A disyllabic root would be reconcilable with this (**kōrh₂-ón* etc.; for *corvus* < **kōrh₂-ū-* cf. *culmus* < **kólh₂m-* s.v. κάλαμος). Martinet's interpretation, **kōrḗh₂-s* > κόραξ, **kōr-eḥ₂-nā* > κορώνη (noted as **kor-^oA^w-s* etc.) in *BSL* 51 (1955) 55 n. 3 with the explanation "La labialité aurait disparu dans le groupe *-A^ws*, d'où l'a de κόραξ" presupposes a development of which there are insufficient indications. The criticism by Cowgill, pp. 176 ff., may suffice here. The interpretation of this word therefore remains highly uncertain.

¹⁰⁰ The matter of initial consonantism remains out of consideration here; the formulation *ḡh₂* is followed here without commitment. For literature see *Evidence*, p. 20, n. 73.

κεραῖζω (Il.) 'ravage, plunder' is a secondary present; Skt. *śṛṇāti* 'to break, smash' has the old form. OIr. *docer* 'he fell' has disyllabic root, *-kerh-*. This stem is further found in ἀκέραιος and κέραινος, which goes back to *κερα-φαρ/υν- < *kerh₂-ur/yn-*. Cf. ἐλαύνω *infra*.

ἐλάσαι has a root ἐλα- < **(h₁)elh₂-*; ἐλαύνω goes back to a noun *ἐλα-φαρ/υν-, cf. κεραῖζω *supra*.

νῆσσα, Boeot. νᾶσσα 'duck' may correspond exactly to Skt. *ātī-* 'a water bird', both from **ṇh₂ti-*, while on the other hand Lith. *ántis*, Serb. *ūtva*, Lat. *anas* (*anatis*), OHG *anut*, which all go back in the first instance **anət-*, to cannot be separated from this. The two forms probably stem from one paradigm, but the obvious **h₂en₂h₂tis*, gen. **h₂ṇh₂téis* seems to me to be out of the question, since **ḥh₂-* would have given **ἄνᾱ-* in Greek; see p. 95. All that then remains is the reconstruction **ṇh₂ti-s* (*ṇh₂tis*?) **ṇh₂téis*. (For the nominative with reduction vowel *ῆ* cf. Kuiper, *Notes*, p. 19 f.)

σφαραγ- The situation here is complicated. Probably a distinction has to be made between three groups.

(1) A group of words for 'throat, gullet, gully': (ἄ)σφάραγος, φάραγξ, φάρυγξ, βρόγχος, βρόχθος, βράγχος, βάραγχος, βρακεῖν, βράξαι, βρόξαι. The group seems to be of non-IE origin, cf. Kuiper, *Μνήμης χάριν*, p. 221.

(2) The word for 'asparagus' ἄσπάραγος (ἄσφάραγος Att.). The beginning of the word, ἄσπ-/ἄσφ-, and the fact that it is the name of a plant suggest non-IE origin. But if the original meaning is 'the edible shoots thereof' (Thphr.), 'the shoots (of other plants)' (Nic.), a connection with Lith. *spūrgas* 'sprout, offshoot', Skt. *sphūrja-* 'plant', Av. *sparəga-* 'sprout (at the point of an arrow)' is possible. The basic form **sp_ṛh₂g-* which the latter forms would suggest would have given Gr. **σπῤῥᾱγ-*; ἄσπάραγος would have to be based on **sp_ṛh₂g-*, but the ἄ- and the interchange π/φ make strange origin more probable all the same. It is of course possible to think of a contamination of non-IE **(ἄ)σπαραγ-/ἄσφαραγ-* 'asparagus' and a PIE **sp_ṛh₂g-* > **σπαραγ-* 'sprout, shoot'. However, the *ph* of Sanskrit also remains a difficulty (PIE **sh_ṛperh₂g-*, giving Gr. **h₂sperh₂g-*, Skt. *sp_ṛherh₂g-*?).

(3) σφαραγέομαι 'to groan with fullness, to be full to be bursting' (οὔθατα ι 440) and 'to burst with noise, crackle, spatter, hiss' (LSJ). This meaning is found in Skt. *sphūrjati* 'to burst forth, appear; to rumble, roar, thunder'. A root **sp_ṛh₂g-/sp_ṛh₂g-* therefore seems certain. This is conformed to by Lith. *spirgti* (**sp_ṛh₂g-*) 'hiss (of things fried)', but Lithuanian has other forms in *sprógti* 'to burst' (**spr_ṛ-eh₂-g-*?) and *spragėti* 'to crackle, spatter', which is derived from *spragà* 'Bresche, Mangel, Zaunlücke, Spalt' and *sprägė* 'idem' and (2) 'von einem brennenden Scheit abgesprungener Splitter' (Fraenkel; basic form?). The zero grade is also found in Serb. *p_ṛžiti* 'to roast'. Neither the φ nor the ph of Sanskrit have been explained. The connection with Lat. *spargo* (which may be **sp_ṛh₂g-*) is uncertain. A difficulty is also presented by σπαργάω (E.) 'to be full to bursting, swell, be ripe', which one would not like to separate from the preceding group, but which is difficult to explain by disyllabic root

(cf. Lith. *sprag-*). Perhaps in the case of this emotionally charged, onomatopoeic word allowance must be made for developments that cannot be traced now.

μαλακός 'soft' is connected with βλάξ 'stolid, stupid', which of course is not semantically imperative (**m_elh₂k-*, **m_lh₂k-*). OIr. *mláith* 'soft, weak' (**mle_hti* or **m_lh₂ti-*) suggests a distant connection with the root of 'to grind', Skt. *mṛṇāti*, Lith. *málti*, *miltai* (pl.) 'meal', MW *blawt*, OCorn. *blot* (**m_lh₂tó-*) 'meal'. Lith. *mùlkis* 'Dummkopf' may go back to the same **m_lh-k-*, but Skt. *mūrkhá-* has been secondarily derived from *mūrchatī* 'to be defeated' (*kh* analogic? cf. *AiGr.* II 2, p. 93 and 543 f.).

f. Stems with different Apophonic Forms in Greek

κάρᾱ. One finds in Greek two old apophonic forms of the word for 'head', *καρᾱσ-* in *κάρηνα* (cf. Skt. *śíras* < **ḱ_erh₂-es*) and *κρᾱσ-* in *κρᾱτος* < **κρᾱσατος* < -*ḡ-tos*, which replaced **κρᾱνός* < -*n-ós*, corresponding to Skt. *śírṣṇás* (beside more recent *śírṣatás*), from **ḱ_erh₂s-* and **ḱ_rh₂s-* respectively. The full grade **ḱ_erh₂s-* in Lat. *cerebrum* < **cerasrom*, unless this goes back to **ḱ_erh₂-es-ro-* (cf. Skt. *śíras* < **ḱ_erh₂-es-*), cf. *tenebrae* p. 229.

On the other hand, the word for 'horn', Skt. *śṛṅgam*, Lat. *cornu*, Goth. *haúrn*, W. *carn* does not seem to have had a laryngeal (**ker-n-*). It is therefore the question whether *κέρας* goes back to **ḱ_erh₂s* and not to **ḱ_erh₂-s* instead. In this way *κερα(φ)ός* (Lat. *cervus*) could be based on **ḱ_erh₂mos*, but the connection with Russ. *koróna*, Serb. *kràva* (there is no reason to assume **kōrṷā*), Lith. *kárnvė* nevertheless points to **ḱ_erh₂uo-*. (The group κορυφή κόρυμβος, however, displays the clear characteristics of a non-IE substratum word.)

δάμνημι, aor. δαμάσαι, perf. δέδημαι (II.); derivations δμητήρ h.Pos. 5, δμητήρ δμησις (II.; δάμασις Sch. Pi.), ἄδμητος (II.), ἄδάμαστος (I 158), ἄδμής (δ 637 ζ 109. 228). PIE **demh₂-*. The present must originally have sounded like **dm_n-eh₂-mi*, OIr. *damnaid* 'festbinden, (Pferde) bändigen'; δαμ- from *dm_n-* before *n* as in κάμνω τάμνω or analogic, cf. Schwyzler, p. 693 n. 1 with Nachtr. The aorist probably stands for **δεμασαι* after the present. In this way (παν-)δαμάτωρ (II.) as against Skt. *damitár-* (< **demh₂-*, or **domh₂-*? PIE **d_emh₂-* would have given Skt. **dimi-*, see p. 000) for **δεμα-*, of which Greek has no trace (Lat. *domitor* with generalized *o*). The zero grade in Skt. *dāntá-* (ἄδμητος), *dāmyati* (*ām* for *ā*?). Full grade with *o* in *damáyati* (**domh₂éti*; Goth. *gatamjan*) and *arim-dama-* (**-domh₂o-*) 'den Feind bewältigend'; ἱππόδαμος (II.) therefore probably for *-δομος, which perhaps was also replaced to avoid homonymy with -δομος from δέμω 'to build' (e.g. οἰκοδόμος). Thus in Greek one has beside δμη- (**dme_h2-* and **d_mh₂-*) only δαμ(α)-, but a form with original **d_emh₂-* is not demonstrable.

δέμω 'to build'; (ἐ)δέδητο (Hom.; νεόδμητος Pi.) points to a disyllabic root, as does Skt. *dāma-*, if from **domh₂o-*. Perhaps δέμας represents **demh₂s-*. See Add.

κεράννυμι (κεραίω I 203, κέρᾱω II.) has an older present κίρνημι (Od.), which perhaps stands for *κάρνημι < **ḱ_rh₂-n-eh₂-mi*, aor. κέρᾱσ(σ)αι (II.; ἐπι-κρήσαι η 164, Hp.), perf. κέκρᾱμαι (Sapph., Pi., Ion.-Att.; κεκέρασμαι Arist.), κρᾱῖναι (Th.)

κερασθῆναι (Pl.). Here, then, we can see a tendency to generalize κερασ-. The starting-point was κίρνημι—ἐκέρασα—κέκρᾶμαι. Derivatives κρᾶσις (A.) as against (κατα-)κέρασις (Arist.), κρᾶτήρ (Il.) *karatera* Myc. Skt. (*ḍ-*)*śirta-* corresponds to (*ṣ-*)κρᾶτος (Il.).

κρεμάννυμι (Att.), κρίμνημι and κρήμνημι (Pi., Hp., Trag.) has in the *Iliad* an intransitive present κρέμῃμαι (κρέμω O 18.21) and the aorist κρεμάσαι, which form the oldest part of the system. Although a **kṛm-n-eh₂-mi* is conceivable (for the structure cf. p. 44), κρέμαμαι more readily suggests **kremh₂mi*. Connection with Goth. *hramjan* 'to crucify' is possible (**kromh₂ei-e/o-*), cf. *gatamjan* belonging with δάμνημι. Lith. *kárti* < **korh-ti* 'to hang' may suggest **kr-eh₂-* beside **kr-em-h₂-*. In that case κρημνός 'overhanging bank' (Il.) can be explained as **kr-(e)h₂-m-*. The form κρήμνημι must be analogic (after κρημνός?).

πελάσσαι, pres. πέλναμαι (Il.) (for **παλν-*?) has the old scheme **pl₁-n-eh₂-mi* **pelh₂-*. The aorist πλῆτο (Il.) will also be old, but with zero grade **pl₁h₂-*; see p. 95. Zero grade is probably also found in πλῆσιον, Dor. πλᾶσιον; for the formation see Frisk, II, p. 495, where possible Irish cognates of this word are also given.

γελᾶω has an aorist γελάσ(σ)αι (Il.), which suggests **gelh₂-*. The present will have been **γέλαμι* (J. Schmidt, KZ 39.35; not **γελάμι* with Specht, KZ 63.211-6, cf. Schwyzler, p. 682,3), which is also suggested by Arg. διεγέλα καταγελάμενος. For γέλας etc. see p. 000. In γαλήνη 'stillness (of the sea)' we have **γαλασ-* < **g_elh₂-s-*, cf. κάρηνα, if it has been derived from this root (cf. also σελήνη). Equally dubious is γλήνη (Il.) 'eyeball' (possibly **gl₁h₂-*).

θνήσκω τέθνηκα — ἔθανον — θνητός all occur in the *Iliad*. Sanskrit has the aorist *ádhanāt* (**dh₁en₂h₂-*); *dhvāntá-* (for the *n* cf. *dānta-* s.v. δάμνημι) conforms to θνητός. For ἔθανον < **e-dh₁en₂h₂om* see p. 217. The plural of τέθνηκα, τέθνᾶμεν, is analogic, see p. 204. Θάνατος goes back to **dh₁en₂h₂-*, cf. κάματος s.v. κάμνω (p. 201).

ταράσσω. In Homer the aorist ἐτάραξε and the perfect τετρηχῦα (H 346), ppf. τετρήχει (B 95) occur, which suggests a root **dh₁reh₂gh-*. The present ταράσσω (Pi.) is denominative or derived from the aorist. However, the aorist cannot be old, since one would in that case expect θ and because full grade is normal here (although **dherh₂ghs-* is not a very probable aorist formation). One must therefore assume influence of a noun, e.g. παραχή (**dh₁erh₂gh-*), although this does not occur until Herodotus. Θράσσω (Pi., Hp.), θρᾶσαι (A., E.) may therefore be older and be based on **dh₁reh₂gh-*. The *u*-stem τρηχύς will be based on zero grade (**dh₁h₂gh-(e)u-*).

πράσσω belongs to a widespread root **per-* (in πέρᾱ(v), πέρι, πείρω) with the suffix *eh₂*. Of this, Greek has two verbs besides πράσσω, or rather one verb of which a specialized meaning acquired separate forms (Chantraine, *Gr. Hom.*, p. 354 with n. 2). These verbs are:

(1) 'to export for sale' πέρνημι (Il.); "περάω wrongly inferred from forms like ἐπέρασσα" LSJ), ἐπέρασσα (Il.), πέπρᾱκα (Alex.), πέπρᾱμαι ἐπράθην (A.; πεπερημένος Φ 58, a form which one would more readily expect with (2), but Leskien's

conjecture *πεπρημένος is not permissible); on these latter forms πιπράσκομαι (Lys.) was built, and πιπράσκω (Thphr., see LSJ Suppl. s.v. πέρνυμι).

(2) 'to drive right through, traverse, penetrate, pierce' περάω περήσω ἐπέρησα, all II. (πεπέρακα A.).

(3) 'to pass through, fare (well etc.), achieve' πρήσσω πρήξω ἔπρηξα (all II.), πέπρῶγα πέπρῶχα (Hdt.).

The last form has an invariable stem *pr(e)h₂g- (cf. πρᾶγμα). The present must be based on the aorist (Schwyzer, p. 715), πέπρῶχα is an innovation for πέπρῶγα. The aorist itself may have been derived from a present *πρᾶ-γ-ω (cf. τμήγω) (beside which the perfect πέπρῶγα therefore stood).

Πέρνυμι is an old present that has the ε of ἐπέρασα, for original *πάρνυμι < *pr-n-eh₂-mi (or *πίρνυμι?); Aeol. πορνάμεν (Hsch.) arose phonetically from this basic form.

The system of περάω is entirely a Greek innovation.

πλῆσσω, πλῆξα ἐπέπληγον, πέπληγα, πληγῆναι all in Homer, πλαγῆναι (Hdt., only in compounds). Derivatives are πληγή, Dor. πλᾶγᾶ. Germanic OE *floccan* 'to beat', Goth. *faiflokun*; OCS *plakati se* 'to be sad' (Lith. *plakù plàkti*). Greek therefore has a root *pl(e)h₂g- (πλήσσω is derived from the aorist).

The full grade I (*pelh₂g-) perhaps in πέλαγος, with an original meaning 'flat', cf. OHG *flah* and Gr. πλάξ πλάκος 'anything flat and broad; plain, ocean-plain, flat top of a hill' (cf. OHG *fluoh* < *plāki 'roche escarpé'). However, the last Greek form is difficult to explain, since *plh₂k- could not become πλάκ- (but only *πλᾶκ-). Cf. Lith. *plakù plàkti* (Lat. *plango*). One might envisage here a word of non-IE origin, cf. Πλάκος and Oícel. *floer* (< *plak-es) 'Felsenabsätze'; cf. Frisk, II, p. 350.

Without the enlargement k/g one has Lith. *plóju plóti* 'platt drücken, breit formen' — *rankàs* 'die Hände breit zusammenschlagen, in die Hände klatschen'.

An n-derivation is found in Lat. *plānus*, Celt. *Medio-lānum* (cf. OIr. *lár* 'ground, soil'); Lith. *plónas* 'thin', *plónė* 'cake'. Πέλανος 'cake' may therefore belong with this. Also compare for the meaning πλακοίεις πλακοῦς (Ar.) 'flat cake' (πλάξ *supra*). However, it must be doubted that παλάθη 'cake of preserved fruit' (Hdt.) and πλάθανον 'kneading board or tray' (LSJ Suppl.) belong here; an enlargement *dh* is not found elsewhere (from this stem; the words create the impression of being of non-IE origin).

Finally, παλάμη may belong to this root, for which Lat. *palma*, OIr. *lám* (cf. *lár supra*) in any case suggest disyllabic root. More difficult is the relation between παλαστή, Lith. *plāštaka* and OHG *flazza* (all 'palm of the hand'). *Plāštaka* is derived from *plàkti (supra)* as **plakškata*.

ἔτλην does not have any old present in Greek; τλάω appears very late (Tz.), the perfect or τολμάω acts as present. Beside ἔτλην, the aorist also has ἐτάλασσα, the perfect is τέτληκα τέτλαμεν τετληώς (all II.). Cf. p. 244.

The old present is probably found in Mlr. *tlenaid* < **tlināti* < **tl-n-eh₂-ti* (Lat. *tollo* < **tl-n-*?), which would have given *τάλνημι (*τίλνημι?) in Greek. *Έτλην

may be an old athematic aorist (**tleh₂-*), but *ταλάσσαι* must have been transformed from *τελάσσαι*, which Hesychius defines as *τολμῆσαι, τλῆναι*. The many nominal forms with *ταλα-* will have been of influence here. The verbal adjective *τλητός* corresponds to Lat. *lātus* < **tlātos*, W. *tlawd* 'poor', from **tlh₂-tós*. Derivatives are, with full grade I *τελαμών* 'supporting band, base of a stela', and further *τλᾶμων* and *πολύτλας*; **t_elh₂-* > *ταλα-* (*ταλαός τάλαρος ταλαεργός ταλάφρων ταλαύρινος ταλασίφρων τάλας, -ἄνος*) is very frequent. For *τόλμα* see p. 240.

κάμνω *ἐκαμον* *κέκμηκα* *κεκμηώς* (Hom.). Skt. *śamñīte* 'to take pains, labour' suggests an old present **k_hi-n-eh₂-mi*, which would have given **κάμνημι*. For **é-k_hh₂-om* > *ἐκαμον* see p. 217. To (πολύ-)κμητος (Il.) Skt. *śāntá-* (with analogic *n*) corresponds; in addition there are *ἀκμής* (cf. *ἄδμητος ἄδμής*) and *ἀ-κάμας, -αντος ἀκάματος* (all Hom.). *Κάματος* as *θάνατος* (**k_emh₂-*), see p. 206ff.

g. Words ending in -ας

There is a small group of neuters ending in -ας that go back largely to disyllabic roots. They may be discussed here together.

σέλας (*σελαγεῖν*) is connected by some with Skt. *svargá-* 'heaven, celestial', Av. *xvarənah-* 'gleam, majesty' and Lith. *svilti* 'to burn without flame'. In that case nothing would suggest disyllabic root (*svargá-*; for *svilti* see Fraenkel s.v.: the stress characteristic of intransitive verbs). But the development of *sv-* in Greek is a serious drawback to this connection, see Lejeune, *Traité*, p. 116.

τέρας 'sign, wonder, portent, monster'. Connection with *πέλωρ τέλωρ* presupposes dissimilation *p-p* > *λ-p*.

γέρας 'gift of honour', originally 'old age' (in which meaning it was replaced by *γῆρας*; cf. *γεραιός* 'old') is cognate with *γραῦς γρηῦς γρηῖς* (Γ 386, Od.), which goes back to **g_{re}h₂-iéu-s* **g_{re}h₂-iu-ós* (Kuiper, *Notes*, p. 51; cf. Schwyzler, p. 574; for *iu* cf. *γραιβία ἢ γραιτία* (i.e. **γραιφία*) *πανήγυρις*. *Ταραντίνοι* Hsch. (i.e. 'γερουσία'). It may be wondered whether *γραῖα* (α 438; town in Boeotia B 498), instead of being a secondary *ια-* derivative (certainly not **γρᾱf-ια* with Frisk), is not based on **gr(e)h₂-iuh₂* (cf. *πρέσβα* p. 158). Skt. *jīryati* (*jūryati*) 'to become defective, old' suggests laryngeal, **g_{re}h₂-*. In that case *járatī* 'to make, become old' is based on **g_{re}h₂-* (a conjunctive present), as is *járant-*, *γέροντ-* < **g_{re}h₂-ont-*. Everything therefore points to *γέρας* < **g_{re}h₂-s*. For Skt. *jarás-* 'old age' *infra*.

κρέας is identical with Skt. *kravís-* (n.) 'raw meat'. The zero grade is probably found in Skt. *krūrā-*, Av. *xrūra-* 'bloody', **kruh₂-ro-*. On the other hand *κρῦμός* 'frost' is better omitted here on account of the meaning (and probably Av. *xrūma-* 'horrible' as well). *Κρυερός* is in any case not directly from **kruh₂ro* (> **κρῦρο-*), see p. 247ff. There is no foundation for a suffix *-h₂s* (Frisk **qreu-as*). See below.

For *δέμας* (**demh₂-s*?) see p. 198 s.v. *δέμω* (but see Add.!), for *κέρας* (**k_erh₂-/kerh₂-*?) see p. 198.

ἐραμαι Il., *ἐραστός*, Aeol. *ἐραννός* etc. beside *ἐρως* (Il.; Aeol. *ἐρος*) is parallel to **γέλαμι ἀγέλαστος γέλως*.

The last two stems suggest a neuter *ἔρας *γέλας beside the masculine ἔρωσ γέλωσ, PIE *gelh₂-s : gelh₂-ōs. (The accusative γέλω < *gelh₂-ōs-η in σ 350 υ 8. 346, with v.l. γέλων, which is more recent, as is γέλον. The stem γελοσ- perhaps in γελοῖτος B 215, if not on the analogy of αἰδοῖτος.) For -s : -ōs cf. the frequent -r : -ōr (-r > -ap : -ωp), τέκμαρ : τέκμωp, κελαρύζω : κέλωp, ὕδαρής : ὕδωp, ἡμαρ : *amōr (in Arm. awr) and -μη : -mōn (-μη > -μα : -μωn). In a similar fashion Skt. jarás- < *ḡerh₂-os- stands against γέρας.

Beside Skt. *kravīs*- Latin *cruor*, according to Kuiper, *Act. Or.* 20 (1958) 23-35, points to an original paradigm *kreuh₂-ōs *kreuh₂-ōs-η *kruh₂-ōs.

In this way one finds in Sanskrit beside ntr. *sádhiṣ*- a form **sadhás* (in *sadhásta*-), PIE **sedh*-s and **sedh*-es- respectively, which are based on **sed-eh*₁- (in Lat. *sedēs*) (**sedh*₁ still in OIcel. *siot* 'seat, abode, home'); see Kuiper *ibid.* with additional cases.

It seems to me that there is no reason for Benveniste's rejection (*Origines*, p. 31-9) of this explanation of the neuters ending in -ας. True, κρέας — *kravīs*- is the only direct correspondence, but disyllabic root can nevertheless also be convincingly demonstrated for γέρας and *γέλασ *ἔρας. His supposition that -ας stands for -ap cannot explain the origin of this whole category. Nor can it be seen why the much more frequent group of words ending in -ap should have been partly replaced by -ας (cf. Schwyzler, p. 514 n. 6).

As Skt. *sadhīs*- shows, neuters ending in -h₁-s therefore also existed. One could connect with these the declension with ε of a few words ending in -ας. In Homer these are κτέρας, οὔδας and κῶας. It is assumed (Schwyzler, p. 515) that the basis here is a phonetic law ao aw > eo ew. Chantraine, *Gr. Hom.*, p. 210, points to the drawbacks of this assumption: the ε is found only with these three words (in Homer) and then without exception; the forms themselves do not point to the phonetic law mentioned (κτέρεα Ω 38 α 291 β 222 γ 285, -εων ε 311; κῶεα I 661 Od. 4 times, -εσιν Od.; οὔδεος M 448 ι 242, οὔδει Il. 12 times, οὔδει Ψ 283 ι 459, but Ξ 468 can also be read trisyllabically). In Ionic one finds κέρεα γέρεα τέρεα (all on the analogy of κτέρεα?), in Attic such forms of βρέτας κνέφας and σέβας. It is therefore possible that here only the three Homeric words are concerned originally, so that a phonetic development (ao > eo etc.) or also influence of the type γένος is improbable, the latter also on account of the dat. οὔδει, which is disyllabic twelve times (as against trisyllabic twice), while the stems ending in -ος have -εῖ. Unfortunately, none of these words has a reliable etymology. Myc. *kowo* (with the ideogram SKIN + KO), PY Un 718 (*Docs.* 283) only presents new difficulties here: acc. *kōwon* if from an o-stem (cf. ἔπος)? If a stem ending in -h₁-s forms the basis here, the original nominative ending in -ες would have to have been replaced by -ας, which is conceivable (although one would sooner expect that this was replaced by -ος). Further I see nothing in favour of the hypothesis. See Add.

2. THE ZERO GRADE $R\bar{a}$

That the zero grade of $\bar{a} \bar{e} \bar{o}$ was not a reduced vowel (\bar{a}), but a consonantal element (\bar{h}), is the heart of the laryngeal theory. The correctness of this view is evidenced by for instance the forms for 'full' from the root $*pel\bar{a}/pl\bar{e}$:- Skt. $pūrṇá-$, Serb. $pūn$, Lith. $pilnas$, Goth. $fulls$, W. $llawn$, for which, if in the zero grade $*pl\bar{a}$ - the \bar{a} was a vowel, one would after all expect $*priṇá-$, $*plon$, $*planas$, $*flans$, $*llan$ respectively (Cuny, *Rev. Phon.* 2.102, cited by Cowgill, p. 144). In this way one does in fact explain — though wrongly — forms like τέτλαμεν (with $\tau\lambda\bar{a}$ - < $*tl\bar{a}$ -), e.g. Lejeune, *Traité*, p. 178; see for this p. 244. If the representations found go back to $l\bar{a}$ and not to $l\bar{a}$, the \bar{a} was less sonorous than l ($r m n$).

Nor are the forms found explicable by $r\bar{a}$ (etc.) if \bar{a} in this formula is regarded as vowel. The (vocalic) \bar{a} after all became i in Indo-Iranian, and in all other languages a . In Greek one would therefore expect $r\bar{a} > \alpha\alpha$ (and not $\rho\bar{a}$) with $r > \alpha\rho$ before vowel (although there is little material for this development, Schwyzler, p. 342; Lejeune, *Traité*, p. 167 ff., is even briefer). This development is for instance assumed by Schwyzler (p. 362) when he attempts to explain $\alpha\alpha$ by a transitional form ('etwa $r\bar{a}$ ') of the basic form of $\rho\bar{a}$ ($r\bar{a}$ or \bar{r}) (see for this idea p. 207). In the same way one would expect iri in Indian, ari in Avestan and ara in Latin.

Hirt, *Idg. Ablaut*, p. 58, starts for these forms from a basic form $\bar{e}r\bar{a}$. However, it cannot be seen how this form was able to become anything else but ara in Greek and Latin. His explanations (p. 64) are unacceptable, since they are arbitrary assumptions, for which no indications are found: either the second vowel disappeared with lengthening of the first ($ara > \bar{a}r$), followed by metathesis ($\bar{a}r > r\bar{a}$), or the first vowel disappeared with lengthening of the second ($ara > r\bar{a}$). Walde defends this view (*Stand u. Aufg.*, pp. 152-200), because he is of the opinion that Gr. $\rho\omega$ can be explained in this way; however, this explanation seems incorrect to me, see p. 213. The postulation of the development $ara > r\bar{a}$ stems from Schmidt, *KZ* 23.281, who also compares $\xi\sigma\tau\acute{o}\rho\omicron\tau\alpha\iota$: $\xi\sigma\tau\rho\omega\tau\alpha\iota$ (see for this p. 229).

Hirt's starting-point is also shared by Kuryłowicz, *Etudes*, p. 67, who explains Skt. $\bar{i}r$ by $\bar{e}r\bar{a}$ by assuming that \bar{e} became i , and $r\bar{a}$ became \bar{r} . Apart from the improbability of the latter development, the result $\bar{i}\bar{r}$ is very strange, nor can it be seen how this was able to become $\bar{i}r$. His comparison with $\bar{i}rte$, which he interprets as having developed from $*i\bar{r}\bar{t}e$, is incorrect. The basic form of the 3 sg. $*\bar{h}i\bar{h}r\bar{t}oi$ was, under the influence of 3 pl. $*\bar{h}i\bar{h}r\bar{t}oi > \bar{i}rate$, replaced by $\bar{i}rte$ (if one may not assume $*\bar{h}i\bar{h}r\bar{t}oi$, with consonantal r). For an attempt by Bailey to explain $\bar{i}r$ by a similar form see Kuiper, *Die Sprache*, 7.15. In Indian nothing else is to be expected for $\bar{e}r\bar{a}$ than iri , for which see p. 208.

A general drawback is that, if one starts from $\bar{e}r\bar{a}$, one does not see what the development of $r\bar{a}$ then was. If the existence of the first form is to be expected — and in my opinion is demonstrable too — yet it cannot be denied that stems of the type $TeRH$ had a zero grade TRH .

On the other hand it has been assumed that $rə$ was contracted to \bar{r} back in the proto-language. However, this idea of De Saussure is based solely on the supposed parallelism with $\bar{i} \bar{u}$ (from $iə uə$) as zero grade of disyllabic roots of which the second consonant was i or u ($Tejə Teuə$). Apart from this parallelism that can be constructed, there is nothing that suggests a contraction of this kind; it is not demonstrable and the assumption has nothing in its favour, because it does not contribute to the explanation of further development. Brugmann (*Grundr.*, I², 1, p. 418) calls them 'Verlegenheitsansätze'. Moreover, it has appeared above that $i\bar{h} u\bar{h}$ at the end of the word was preserved down to the separate languages (p. 155 ff.).

That $rə$ was not contracted to \bar{r} is also evident from the compositional shortening (which is dealt with in greater detail on p. 242 ff.). In Indian we find for instance *carkṛti-* as against *kṛti-*, *ástṛta-* as against *stīrṇá-*. Av. *stərəta-* : *starəta-*, Gr. *στρωτός* : *σπρωτός*, corresponds exactly to the latter. It is clear that we are not concerned here with shortening of the historical simplicia, for in that case we would get **-kirti-*, **stirtá-*, **σπρωτός* (which does occur, but as the Aeolic development of **stṛtos*); cf. Kuiper, *Die Sprache*, 7.14-31. If we assume that $rə$ was not contracted, this shortening may be explained as disappearance of the $ə$. If a contracted \bar{r} is taken as starting-point, another explanation remains possible: it may be assumed that \bar{r} was shortened into r . However, this changes if Latin is brought into it. Unfortunately one finds only one case here, *cognitus* (Kuryłowicz, *Etudes*, p. 66). This form, which is cognate with *nōtus* (**ḡnoh₁tos*) cannot be explained as a shortening of *nōtus*, nor by **ḡnatos* (**ḡnh₁tós*), which would have given **gnātus* (and could not itself become **-gnātus* > *-gnitus* either). Here compositional shortening from **ḡnatos* (**ḡnh₁tos*, **ḡñ₂tos*), Sommer, p. 605, is not possible, since this would have given **-ḡñtos* > **-gentus* > **-gintus*. The sole surviving possibility, to which my attention was drawn by my friend J. P. Smit, prematurely taken from us by an accident, is loss of \bar{h} in (Lat.) **gnahtos* (< **ḡnh₁tos*), which therefore gave **gnātus* > *-gnitus*. If this explanation is correct, it proves the existence of a phase *naḥ* (*naə*). An intermediate phase \bar{n} , with the development $\etaə > \bar{n} > naə > nā$, instead of $\etaə > naə > nā$ direct, becomes highly improbable in that case. Consequently there is nothing to support the contracted form \bar{n} , while the compositional shortening rather suggests an uncontracted form $\eta\bar{h}$ (etc.) existing down to the individual languages.

The last-mentioned development $\etaə > naə > nā$, which must be assumed for Latin, Greek and Celtic, itself already points to the consonantal character of the $ə$ (\bar{h}), for a development $\eta > na$ before vowel would be most surprising.

If it is assumed that $\etaə$ was preserved down to the individual languages and that $ə$ was a consonantal element ($\eta\bar{h}$), the individual developments are more easily understandable than when one starts from $\bar{\eta}$ (etc.).

In Latin, for instance, $r\bar{h}$ (> $ra\bar{h}$ > $rā$) explains the vocalism; in comparison with $r > or$ one would have more readily expected \bar{or} (perhaps $r\bar{o}$) from \bar{r} . For the \bar{h} itself was also vocalized to a in Latin.

Indian $\bar{ir} < r$ would have to be accepted without question, while $\bar{ir} < r\bar{h}$ becomes

more comprehensible as laryngeal umlaut ($r\bar{h} > ir\bar{h}$, in a language in which \bar{h} was vocalized to i), followed by compensatory lengthening ($ir\bar{h} > \bar{i}r$) (Kuiper, *Die Sprache*, 7.14-6).¹⁰¹

The Greek development $r\bar{h}_2 > ra\bar{h}_2 > r\bar{a}$, $p\bar{a}$ has already been stated in the above. In the same way one finds $\lambda\bar{a} \mu\bar{a} \nu\bar{a}$, which tally entirely with Lat. and Celt. $r\bar{a} \bar{l}\bar{a} \bar{m}\bar{a} \bar{n}\bar{a}$. However, this development summons up a number of questions, whereby Celtic will be left out of consideration here. In Greek $\rho\alpha \lambda\alpha < r \bar{l}$ is normal (beside $\alpha\rho \alpha\lambda$ at the beginning and the end of the word and (?) before vowels), but η and ν became α . The latter development is found in Indian before laryngeal as well, $\eta\bar{h} \nu\bar{h} > a\bar{h} > \bar{a}$. In Greek, on the other hand, $\eta\bar{h} > ma\bar{h} > m\bar{a}$ must be assumed, which development has therefore to be ascribed to the presence of the laryngeal. It is the question whether a conclusion can be drawn from this for the relative chronology. It may be postulated that the transition $\eta \nu > \alpha$ did not occur until after the development $\eta\bar{h} > ma\bar{h}$, but it is also conceivable that $\eta\bar{h}$ was preserved when η and ν became α in another position. The latter seems less probable, but certainty does not seem possible here to me.

In Latin, where the vocalic sonants developed to *or ol em en*, a vocalic segment develops after the sonant if it was followed by laryngeal, this segment being coloured to *a* by the laryngeal.

It is clear that $r\bar{a}$ (etc.) must not be explained by PIE $r_e\bar{h}$ (as Kuryłowicz, *Pr. Fil.*, 11.236, did), since in that case one would have expected $r\bar{a}$ in all languages (e.g. also in Germanic and Baltic), for instance in Indian $*j\bar{n}\bar{a}ta-$ < $*\bar{g}n_e\bar{h}to-$ instead of $i\bar{a}t\bar{a}$ < $*\bar{g}\eta\bar{h}_1to-$. (The form $j\bar{n}\bar{a}t\bar{a}$ - that occurs stems from $*\bar{g}no\bar{h}_1t\bar{o}$ -, Lat. *gnōtus*.)

I fail to understand the exposition by Kuryłowicz, *Apophonie*, p. 197, who explains $TR\bar{h}t\bar{o}- > TR\bar{a}t\bar{o}-$ along the line of $TR\bar{h}t\bar{o}- > T_aRH_a\bar{t}\bar{o}- > T_aRa\bar{t}\bar{o}- > TR\bar{a}t\bar{o}-$. He claims that the first phase is identical with the antevocalic development $TR\bar{h}o- > T_aRH_o- (> TaRo-)$. The parallelism construed here has, however, no basis in fact: beside $TR\bar{h}V > T_aRHV$ one would rather expect a development $TR\bar{h}T > TR_aHT$ (as is in fact found in Greek, Latin and Celtic). Furthermore, it is not clear why the second a becomes a full vowel while the first does not (T_aRa , and not $TaRa$), nor how T_aRa must lead to $TR\bar{a}$: after all, it could not become anything other than $TaRa$; see the criticism of Hirt's theory above. His reference to $TeRi/TR\bar{i}$ (*ibid.*, p. 122 f.), which is itself explained by a reference to the $TeRa/TR\bar{a}$ discussed here, is thus a *petitio principii*. The comparison with the type $TeRi/TR\bar{i}$ is already found in Froehde, *BB* 9 (1885) 107-26. As the interchange $TeRi/TR\bar{i}$ is entirely unclear, the explanation remains an *obscurum per obscurius*.

¹⁰¹ And yet a difficulty remains here, since one would expect that $ir\bar{h}$ would give before vowel $\bar{i}r$ ($i\bar{r}|\bar{h}V > i|\bar{r}V$), and before consonant $\bar{i}r$ ($i\bar{r}|\bar{h}C > \bar{i}r|C$), while the opposite is the case.

3. THE REDUCED GRADE *aRa*

Beside *Rā*, Greek has various forms with *aRa*. In emulation of Van Wijk, *IF* 20.342, Specht, *KZ* 59.115 ff., regards the words with *aRa* as transformations of *oRa*, i.e. θάνατος for *θόνατος, like κάλαμος as against *κόλη₂mos (Russ. *solóma*, Serb. *slāma*, OPr. *salme*, Latv. *salms*, OHG *halm*, Lat. *culmus*; but see the Celtic forms, p. 195). Although this may be correct in an occasional case, it cannot be accepted as an explanation for the origin of this category. Usually a basis for the transformation, such as ἔθανον for *θόνατος, cannot be pointed to, so that only assimilation could be envisaged, which, however, is contradicted by words like κόλαφος, κόναβος, ὄμαδος, ποταμός, στοναχή, χρώμαδος.

Cowgill (p. 150) also assumes, in emulation of Kuryłowicz, *Apophonie*, p. 206 f., that all forms with *aRa* are based on transformation from full grade I (*eRh* or *oRh*). To support his argument he invokes not only the above-mentioned θάνατος but also τέμενος ταμεσίχρως beside τέμαχος. Quite apart from the fact that precisely here no *ταμα- occurs, this case must be viewed quite differently, p. 221 ff.: τεμε- is the phonetic form, τεμα- and ταμε- are due to the influence of other forms. Assimilation in *eRa* is improbable, in view of the large number of words with this structure (γέρανος κέλαδος κέραμος πέλαγος πέλανος πέταλον τελαμών τέναγος χέραδος). However, one could point here to βάραθρον, but this seems non-IE, see p. 193. In many cases it cannot be seen from where the *a* must have been introduced, e.g. in the nominal forms with ταλα-: of *τάλνημι there is no trace. Forms like κάλαμος παλάμη ταραχή σφαραγ- χαράδρα γαλήνη κάρηνα cannot be regarded as analogic either. Cowgill's point of view in this matter is probably a consequence of the fact that he does not accept the reduced vowel (*e*), as a result of which the only alternative (*eRh*) becomes unacceptable for him.

Kuryłowicz, *Apophonie*, p. 198 f., also does not assume that *aRa* is a phonetic development, but explains the forms by means of analogy. On a basis of the relation *TeR(T) : TaR(T)* (< *TR̥(T)*) he believes that *TeRa : TRā* (< *TeRh̥₂ : TR̥h̥₂*) was replaced by *TeRa : TaRa*. This is conceivable in itself, but it implies that the whole category is secondary, which is not probable in particular with the words of which the full grade *TeRa* is not demonstrable (see the words just listed). Another major drawback is that the forms with *TeR(T) : TaR(T)* are not frequent (δέρω σπείρω : δαρτός σπαρτός) and that here *aR* itself is probably analogic for *Ra* (δρατός). (It may be noted that Kuryłowicz has built up a strange system: he claims that *TRā* developed from *TR̥HT* > *T_aRH_aT* > *T_aRa(T)*, which would have been more likely to have given *TaRa*, whilst the *TaRa* that is in fact found is in his opinion analogic for *TRā*. The whole of this is not very probable.)

Viewed from Greek, it is improbable that the whole category *aRa* is analogic, since the forms are widely represented in the oldest linguistic stage and there is no basis for a complete transformation.

It has been attempted to trace *aRa* back to the same basic form as *Rā*. As the

opposition θάνατος : θνητός shows that the phonetic structure cannot have determined the difference in development, it has been endeavoured to make the stress responsible for it. For instance, Per Slomann (ap. Pedersen, *Cinq. décl.*, p. 33) thought that *aRa* was the normal development *after* the stress, explaining θάνατος by *ǎθανατος. But ᾠθάνατος, as a bahuvrihi, is secondary to θάνατος. In general it is improbable that the category as such developed in this way, for the group *aRa* usually forms the first two syllables of the word. It is not probable that the group came into being entirely in composition, which would then have to be assumed, since it cannot be seen in which compounds the above-mentioned words (in particular γαλήνη κάρηνα) could be used.

As many of these words have the stress on the group *aRa*, it has been assumed that *aRa* came into being when this group had the stress. However, it is improbable that this group was originally stressed in PIE, precisely because it had reduced vocalism. In that case one must assume a shift in stress (Hirt, *IF* 7.209, *Idg. Ablaut*, p. 67, *Idg. Gr.*, 2, p. 136f.). Such a shift is suggested by OHG *mord*, OIcel. *mord*, which in the first instance must go back to **mŕto-*, while Skt. *mŕtām* has doubtless preserved the old stress. Hirt here assumes a basic form *ₑRə*. As discussed above, there is, however, no other development than *aRa* to be expected for this form, while the forms of the type *Rā* cannot be explained by it. If we assume *ₑRə* beside *Rə* (for *Rā*), then the hypothesis of the shift in stress is superfluous. However, it is possible to use this hypothesis, starting from the basic form *Rə*. Here there are two possibilities.

If we assume that *ə* in *Rə* is vocalic, *Rā* cannot be explained by it, as has been demonstrated above. In fact, in that case we therefore need two basic forms, *Rə̌* (*Rḥ*) and *Rə̐* (*Rḥ̐*). If the *ə* was vocalic, *Rə* could not have become anything but *aRa*. However, it must be asked what reality this symbol (*Rə̐*) represents in that case. We can accept the occurrence of a vocalic sonant before a vowel without further discussion. However, in the group *Rə̐* the *ə̐* could be consonantal (*ə̐*) — for only in that way can the representation *Rā* be explained — and it is improbable that if this *ə̐* was vocalic the preceding sonant could also be vocalic (if *ə̐/ə̐* is replaced by *h/h̐* this therefore means to say that *Rḥ̐* is improbable). If the sonant had a consonantal function (*Rḥ̐*), then nothing but *Rā* would be expected. In this case we are therefore compelled to assume a vocalic element before the *R* (*ₑRḥ̐* = Hirt's *ₑRə̐*). Schwyzler (p. 362) tries to start for *aRa* from an intermediate form in the development of the zero grade (which he designates by *Rə̐*) and the contracted form (*R̐*), from which the forms *Rā* arose. He claims that this intermediate form then acquired a development of its own through secondary stress. For this intermediate phase he envisages *Rə̐*. However, it cannot be seen what real difference could exist between *Rə̐* and *Rə̐* (apart from the timbre of the reduced vowel (*ə̐* : *ə̐*), which, however, is unimportant here). Moreover, it has been demonstrated above that a development *Rə̐* > *R̐* has not taken place.

If, on the other hand, it is assumed that the *ə̐* was consonantal (*ə̐* = *h̐*), then, as we have seen, *Rḥ̐* gave the forms *Rā*. Here it might be postulated that *ḥ̐* (i.e. with secondary stress) became *ara*. However, this presupposes firstly the shift in stress,

secondly that this led to the development stated, which cannot otherwise be made probable. Only the forms *αραχή*, *μαλακός* and *ταλαός* could be mentioned in order to demonstrate that the stress did not always fall on *ara*. The forms to be discussed below, however, suggest that the stress was not the decisive factor.

The most obvious solution — as already indicated above — is to assume for these forms a separate reduced grade *_eRh*, in which *_e* is a reduced vowel, which came into being in the proto-language through weakening of the full vowel *e*; see for this Introduction, p. 11.¹⁰²

Corresponding forms are found in Indian (Kuiper, *Act. Or.* 20). Beside *támisrā* < **temh̥sr-* a form *timirá-* occurs, which cannot be otherwise explained than by **t_emh̥-ró-*, with *_e* > *i* through umlaut of the laryngeal (**t_hhró-* would have given **tārā-*). Of *śámī* 'endeavour, effort, κάματος' an instrumental *śímīā* occurs, which stems from an original declension **kémh̥₂-ih̥₂* **k_emh̥₂-ieh̥₂-s* (instr. **k_emh̥₂-ieh̥₂-h̥₁?*); thus *śíma-* < **k_emh̥₂-o-*. In this way *simá-* 'self' will go back to **s_emh̥-o-*, like *ἄμο-* and Goth. *sums*; the laryngeal is also suggested by *samá-*, which beside *ὁμός*, Goth. *sama-* must go back to **somh̥o-* (**somo-* would be **sāma-*). The laryngeal is probably found again in *ὁμαλός*; the great age of this form is evidenced by its widespread appearance, Lat. *similis*, Germ. e.g. Goth. *simle*, Celt. e.g. OIr. *saimlith* 'simul', *samail* 'resemblance', W. *hafal* 'similis'. Compare the identical structure of *μεγαλο-* < **megh̥₂lo-*, Goth. *mikils*.¹⁰³

These Indian forms with *im(i)* can only be explained by *_emh̥*. We therefore find in this the Indian parallel of Gr. Lat. Celt. *ara*. From *simá-* (*samá-*), *ἄμό-* *ἄμα* (*ὁμός* *ὁμαλός* *similis*), *samail* this is quite clear. This correspondence is in itself enough to postulate a separate basic form in the proto-language for these forms. That the stress was not, as mentioned above, the decisive factor is evident from Skt. *timirá-* and *simá-* beside *ἄμό-*, and from *ὁμαλός* if for **ἄμαλός* (on account of OIr. *samail*; stress and structure may be compared with *timirá-*). Moreover, the supposition that both in this development in Indian and in Gr. Lat. Celt. *ara* the stress is the cause of a vowel developing before the sonant is not probable.

The form with reduced vowel reconstructed for the proto-language could be irrefutably demonstrated in forms in which the second consonant is an occlusive.

¹⁰² This too is included by Schwyzler, although it is not clear exactly how he does so: "in andern Fällen ist die Doppelheit einfach zur Kenntnis zu nehmen (wie der Unterschied von Reduktions- und Schwundstufe in andern Fällen)."

¹⁰³ It is therefore possible that Gr. *ἄμα* is based on **s_emh̥₂*, which would explain the ending; cf. p. 153f. Cf. Cret. *ἄμακας*, Tarent. *ἄματις*. In this connection *ἀνά* may also be discussed. To *ἀνά* Lat. *an-*, Arm. *am-* correspond. Avestan has *ana*, OP *anā*; it is uncertain whether Skt. *ā* belongs here. The Balto-Slavic **nō* (OCS *nā*, Lith. *nuō*) is reminiscent of *ἄνω*. The comparison of the last two forms suggests **h̥₂nō* (*h̥₂noh̥*). Comparing the form *ἄμα*, a basic form **h̥₂en̥h̥₂* seems most obvious (in my opinion **h̥₂nh̥₂* would have become **ānvā*). However, it is not necessary to assume that the word began with laryngeal: **nō* (**noh̥*), **en̥h̥₂* are equally possible. A problem is also presented by Aeol. *ὄν*. (Ruijgh, *Etudes*, p. 353f., who believes that he can point to both *ano* and *ana* in Mycenaean, suggests *ōν* by apocope from **ōvo*, which developed by assimilation from *anō*, while for *anō* beside *ana* *ἀνά* he compares Myc. *parō* (πάρο Alc.) beside *παρά*.) The whole analysis remains uncertain.

However, such forms are very scarce. It is uncertain whether πατάνη has been derived from **peth*₂- (πετάννυμι). But the connection with Lat. *pateo* cannot be denied. For this no other basic form can be reconstructed than **p_eth*₂-.

One may also think here of W. *adain* 'wing' < **atani*; but the related OIr. *én*, W. *edn* 'bird' does not seem to suggest laryngeal (**petnos*). Neither Hamp's explanation, *Evidence*, p. 231, of the second *a*, nor Kuryłowicz's explanation (*Apo-phonie*, p. 176) of the first seems probable to me: that with these disyllabic roots after the coincidence of full and zero grade (*ReH* and *ṛH*) a new zero grade *Rǎ* was introduced after the type στή-/σῑ- (i.e. in this way φρηγ-/φραγ-) is understandable, but not that the zero grade *TT* (e.g. **pt*) of *TeT* (**pet*-) was replaced by *TaT* (**pat*-). The word *adain* < **atani* becomes clear as **p_eth-n*-. Cowgill (p. 150 n. 14) is obliged to explain these forms by assimilation, W. *adar* from **pethro*-.

I fail to understand Vey's thesis that αλα etc. aspirated preceding voiced occlusive (*BSL* 51 (1955) 80-100). The group αλα does not, according to him, go back to ^hla, "mais sur ^hla (comme d'ailleurs on l'a parfois noté), c'est-à-dire *h^hlhə*" (p. 83). That some noted the reduced vowel as ^ə has of course nothing to do with Vey's *h^hlhə*. What this designates is not clearly stated: only that the first α is not a reduced vowel, "c'est toujours un α, c.-à.-d. la même voyelle que celle qui suit". I fail to understand what this means. On theoretical grounds I do not see the slightest reason to assume aspiration here and I do not find it in the material. As he himself states (p. 94), one would also expect this aspiration with voiced occlusive (immediately) followed by ə, but he states that no case is known of the type **teg-ə*-. In my opinion μεγα- (μεγαλο-), which he himself cites in another context (p. 95 n. 1), conforms to this. Greek has no trace here of **μεχ*-, which would correspond to Skt. *mahi*. Vey tries to explain θυγάτηρ by starting from **dhugh-ə-ter*-, assuming that here the (original !) aspiration before ə was *lost*. This is a purely arbitrary assumption and in conflict with what may be reasonably expected. It is not clear why **dhughəter* did not become **τυγάτηρ* in accordance with the well-known rules. One must therefore start from **dhug-ə-tēr*, from which one would, however, equally well expect **τυγάτηρ* in accordance with Vey's rule. Nor is it clear why the aspiration does not occur after voiceless occlusive. His theory is based on δαλάγγαν as against θάλασσα (of which therefore the θ is said to be due to the origin of the group αλα). However, for this an unknown form of breath dissimilation must be assumed (for one would expect **ταλάγγαν*), while the 'nasal parasite' remains unexplained: the semantically highly dubious connection with δολιχός ἐνδελεχής, which is linked with MP *drang* < **dlongo*- etc. does not solve this problem. The interchange δ/θ points to non-IE origin. Vey further gives φάραγξ : βάραθρον, χάλαζα : *gelidus*, γελανδρόν : ψυχρόν Hsch. (**gelə*₂-) and χαλαρός : γελαρής (**gelə*₃-!; to explain γαλήνη a following phonetic law is formulated). The last two are semantically very weak. The article consists of a string of improbabilities which need not all be explained here; cf. the criticism by Cowgill, pp. 173 f.

B. DISYLLABIC ROOTS WITH \hbar_3 AND \hbar_1

The question has arisen whether the colour of the laryngeals of the disyllabic roots with \hbar_1 and \hbar_3 has been preserved in Greek. This is the key problem of the following sections. Each of the separate developments will be investigated for these roots. It goes without saying that the forms with \hbar_1 and \hbar_3 are completely parallel.

1. $\rho\omega$ AS ZERO GRADE

Since it has been generally accepted that $\bar{p}\bar{a}$ was able to come into being in the zero grade of disyllabic roots, the question whether $\rho\omega$ could also occur here has been answered in different ways. Firstly it is stated that $\rho\omega$ never goes back to zero grade, but is always based on a full grade (a). A second view is that the original form was a zero grade, but that the phonetic representative $\bar{p}\bar{a}$ was analogically replaced by $\rho\omega$ (b). Finally $\rho\omega$ is interpreted as a phonetic development of a zero grade, explained without (c) or with the aid of the laryngeal theory (d).

It is illuminating to examine the discussion on this matter. De Saussure, *Mémoire*, p. 263, regarded $\rho\omega$ as the (only) phonetic representation of \bar{r} . Brugmann, *Grundr.*, I², 1, p. 418, wondered whether $\bar{p}\bar{a}$ could not also act as such. Hirt, *Idg. Gr.*, 2, p. 133 regarded $\bar{p}\bar{a}$ as regular and rejected the view that $\rho\omega$ could be the result of a phonetic development, while Walde (*infra*) tried to explain both phonetically and Schwyzler (pp. 361 f.) finally was prepared to accept $\bar{p}\bar{a}$ as well as $\rho\omega$ and $\rho\eta$. His starting-point displays similarity to the laryngeal theory to the extent that it accepts three separate reduced elements of $\bar{a} \bar{e} \bar{o}$ (noted $\bar{a} \bar{e} \bar{o}$ respectively) which, combined with sonant ($\bar{r}\bar{a} \bar{r}\bar{e} \bar{r}\bar{o}$ or $\bar{e}\bar{r}\bar{a}$ etc.) gave $\bar{p}\bar{a} \rho\eta \rho\omega$ respectively; however it differs from the laryngeal theory insofar as these elements are regarded as pure vowels. However, in addition Schwyzler assumes that the three forms $\bar{r}\bar{a} \bar{r}\bar{e} \bar{r}\bar{o}$ were able to coincide in \bar{r} , giving $\rho\omega$. In emulation of Lommel, *KZ* 59.193-204, he speaks of 'offene' and 'geschlossene Tiefstufenformen', but these are names that give no explanation; Lommel expressly states that he is not able to indicate when the one and when the other development took place. It is difficult to see what the factor can have been that caused the loss of the difference in timbre. The facts adduced by Schwyzler as a basis of $\rho\omega$ otherwise than from $\bar{r}\bar{o}$ ($\zeta\epsilon\rho\epsilon\theta\rho\omicron\nu$: $\beta\rho\omega$ - and $*\sigma\tau\epsilon\rho\acute{\epsilon}\sigma\alpha\iota$: $\sigma\tau\rho\omega\tau\acute{o}\varsigma$) seem inadequate for the second part of his thesis ($\bar{r}\bar{a} \bar{r}\bar{e} \bar{r}\bar{o}$ may all merge into $\bar{r} > \rho\omega$).

Two conclusions impose themselves when one considers the development of this discussion. Firstly, there seem to be good reasons for regarding $\rho\omega$ as the regular representation of a zero grade. Secondly, the reason why $\rho\omega$ (and $\rho\eta$) is not accepted will be the fact that the occurrence side by side of these forms cannot be explained otherwise than by assuming that the reduced elements of $\bar{a} \bar{e} \bar{o}$ were different and that these remained separate in Greek. However, this idea is almost universally rejected,

even by most defenders of the laryngeal theory, which after all presupposes the existence of such separate elements in a phase of the proto-language.

We shall discuss the four interpretations of *pō* stated above in what follows.

a. *pō Full Grade only*

If it is not accepted that for instance στρωτός goes back to a zero grade (*střtós*, **střatós*, **střh̥tós*), it may be presumed that the *ō* goes back to PIE *ō* (e.g. Lejeune, *Traité*, p. 170). As a full grade (*eĥ₃*) or an *o*-vocalism (*oh̥*) is unusual here, this *ō* would have to be due to analogy in the proto-language. For one cannot invoke γνωτός, of which the stem **ġnō-* (**ġnoh̥₁-*) was already generalized in the proto-language with a special meaning to distinguish it from **ġenh̥₁-*/**ġneh̥₁-* (**ġnē-*). Here the cognate forms (*jñātá-*, *nōtus*) thus show full grade. But there is no indication that this took place otherwise than in some special cases (for **plē-* see p. 219).

The verbal adjective ending in *-tos*, like that ending in *-nos*, everywhere has zero grade, and subject to evidence to the contrary that this form has been replaced in incidental cases by another apophonic form, one should start from it.

That we have zero grade here is shown by the forms that have parallels in the other languages:

στρωτός (Hes.)	Lat. <i>strātus</i> , Av. <i>starata-</i> , Skt. <i>stīrṇá-</i> ,
ἔστροτο (Il.)	MIr. <i>srath</i> 'bank, valley' (?), W. <i>sarn</i> .
βρωτός (E., X.)	Lith. <i>girtas</i> , Skt. <i>gīrṇá-</i> .
cf. βρώσις βρωτός (Il.)	
τρωτός (Φ 568)	Skt. <i>-tūrti-</i> , Av. <i>-tarat-</i> (Kuiper, <i>Die Sprache</i> , 7.22).
πρωτός (Hdn. Gr.)	Skt. <i>pūrtá-</i> .
cf. πέπρωται (Il.); Θεόπρωτος inscr.	
Delos (250 B.C.) IG XI 2, 287A3, Θεσ- πρωτοί (Od.). ¹⁰⁴	

Kurylowicz, *Apophonie*, p. 207 f., regards *TRō* as "une donnée primaire, d'autant plus qu'il y a au moins un exemple de *TRō* indépendant de l'existence de *ToR(o)*: βιβρώσκω". It is clear that this one example (which moreover would give an argument *e silentio*) is not enough to prove this proposition, but is on the contrary the exception to the rule and may not be used as starting-point for an argumentation. It will be demonstrated below that we are concerned here with a normal disyllabic root (p. 234).

An old zero grade in στρωτός is also suggested by στρατός, Aeol. στροτός, which can only be explained as compositional shortening of **střhtos* to **střtos* (p. 204., p. 242 ff.).

¹⁰⁴ The name Θεόπρωτος supports the interpretation of Θεσπρωτοί. For Θεσ- v. Frisk s.v. θέσκελος, θεσπέσιος, θέσφατος and θεός.

b. *Zero Grade* $\rho\omega$ *analogic for* $\rho\bar{u}$

If it is accepted that $\rho\omega$ stands in the place of an old zero grade, it is usually assumed that the form $\rho\omega$ has developed by analogy within Greek, and replaces the original $\rho\bar{u}$.

Kurylowicz, *Apophonie*, p. 208, considers the creation of $TR\bar{o}$ on a basis of $TeRh$: $TR\bar{a} = ToRh$: x out of the question. However, as $TR\bar{a}$ is a Greek development, one should start from $TeRa$: $TR\bar{a} = ToRa$ ($ToRo$): x , which in fact cannot have been a basis for $TR\bar{o}$. More probable is $TaR(a)$: $TR\bar{a} = ToR(o)$: x (possibly $TeRa$: $TR\bar{a} = TeRo$: x), with $x = TR\bar{o}$. But the following objections may be adduced to this: firstly the forms with $ToR(o)$ are less frequent than those with $TR\bar{o}$ (while $TeRo$ is entirely absent from historical Greek), secondly the forms with $ToR(o)$ can be explained only with the aid of the laryngeal theory, i.e. with the same hypothesis as that which explains $TR\bar{o}$ as a regular development of a zero grade, and finally (if one rejects $TR\bar{o}$ as regular development) one must make allowance for the existing system in which the zero grade was $TR\bar{a}$.

Cowgill (p. 148) also makes the last mistake, assuming that $TR\bar{o}$ (full grade)/ $TaR-V$ was replaced by $TR\bar{o}/ToR-V$ on the analogy of $TR\bar{a}/TaR-V$, thus for instance $\tau\rho\omega$ -/ $*\tau\alpha\rho$ - replaced by $\tau\rho\omega$ -/ $\tau\alpha\rho$ - on the analogy of $\kappa\mu\bar{u}$ -/ $\kappa\alpha\mu$ -. For, according to Cowgill, the original system was $TR\bar{e}h_3/TR\bar{h}_3-C/TR\bar{h}_3-V > TR\bar{o}/TR\bar{a}-C/TaR-V$ ($\tau\rho\omega$ -/ $\tau\rho\bar{u}$ -/ $\tau\alpha\rho$ -). It is not very probable that this was replaced by $TR\bar{o}/TR\bar{o}/ToR-V$ on the analogy of $TR\bar{a}/TR\bar{a}/TaR-V$, especially in view of the low frequency of the full grade forms ($TR\bar{e}h_3 > TR\bar{o}$), which would have been the only starting-point for o -vocalism. On the other hand, precisely the zero grade forms have a considerable influence. An important parallel is offered here by Latin, in which the zero grade was certainly $TR\bar{a}$ (*strātus*). Latin even gives a more favourable basis for the development postulated by Cowgill, because there $TR\bar{H}-V$ would have given $ToR-V$ with the normal development $r > or$. For Cowgill disclaims the influence of the laryngeal on the vocalism of the preceding syllable in Greek and will therefore do the same for Latin (in my opinion $TR\bar{H}-V$ gives $TaR-V$ in Latin through laryngeal umlaut). Moreover, the original nasal present $*st\bar{r}-n$ - (cf. Gr. $\theta\acute{\alpha}\rho\nu\nu\mu\alpha\iota$, p. 232) would have become $*storn$ - in Latin. But, despite the original $TR\bar{o}/TR\bar{a}/ToR$, Latin does not have a single form with $TR\bar{o}$, e.g. *tollo tuli* but *(t)lātus*, not **lōtus*. On the other hand, it proves that $TR\bar{a}$ of the zero grade has been extended, e.g. perf. *strāvi*.

However, apart from this detailed criticism, such extensive analogy is not very plausible. If, as is the case here, a simple explanation is possible that is both morphologically and phonetically satisfactory, this is to be preferred to a dubious series of analogic replacements.

It cannot be denied that the stem form with ω was secondarily extended. For instance this happened with $\beta\iota\beta\rho\omega\sigma\kappa\omega$, of which only forms with $\beta\rho\omega$ - occur. However, the question is from where these forms have spread. The aorist Arm. *eker*, Skt. *garat* ($< *é-g''erh_3-et$), Skt. *gārīt* (an *s*-aorist with analogically lengthened *a*), the perfect Skt. *jagāra* ($< *g''e-g''orh_3-e$; phonetically this would have given — in the 3 sg. — **jagara*, but *jagāra* can easily be explained by analogy), do not suggest a

form $*g''re\check{h}_3/o\check{h}_3$ - (although in my opinion the old aorist was $*\acute{e}-g''re\check{h}_3-/g''r\check{h}_3$ -, see p. 226f.). It is therefore most likely that $\beta p\omega$ - stems from the zero grade (before consonant).

c. *Zero Grade $p\omega$ explained without the Aid of the Laryngeal Theory*

That $p\omega$ was a phonetic development parallel to $p\bar{u}$ was defended by Walde, *Stand u. Aufg.*, pp. 152-200. He explained $p\bar{u}$ from ${}_er\bar{a}$, with a development ${}_er\bar{a} > {}_ara > r\bar{a}$. In addition he assumed for the apophonic form $ToR\bar{a}$ a separate weak phase ${}_or\bar{a}$, in which ${}_o$ is an o -coloured reduced vowel. It is an unessential point that he assumed that ${}_on\bar{a}$ ${}_om\bar{a}$ became ${}_ana$ ${}_ama$, i.e. became identical with the development of ${}_en\bar{a}$ ${}_em\bar{a}$ (evidently on account of the absence of $v\omega$ $\mu\omega$; see for this p. 214f.). In addition ${}_or\bar{a}$ is said to have given ${}_oro > r\bar{o}$. Even if one is prepared to accept that ${}_or\bar{a}$ became ${}_oro$, i.e. that \bar{a} , which — according to Walde — in itself could only become a , was coloured by the ${}_o$ to o (the converse, in laryngealistic terms ${}_er\check{h}_3 > oro$, seems more probable), the difficulty remains of the transition ${}_oro > r\bar{o}$ (the same as that with ${}_ara > r\bar{a}$; cf. p. 203), for which there is no parallel in IE. But more fundamental is the question of the existence of a separate o -coloured reduced vowel, of which there is insufficient indication, in my opinion (Kuryłowicz, who assumes ${}_ara > r\bar{a}$, also denies its existence, *Apophonie*, p. 207). Moreover, this presupposes the form $ToR\bar{a}$ as starting-point, where it is not clear when $TeR\bar{a}$ and when $ToR\bar{a}$ functioned as basis: these two forms are after all apophonic forms which can occur with every disyllabic basis (unless one is prepared to assume a non-apophonic o here, for which see p. 139f.). Thus the theory fails in one of the clearest cases, $\sigma\tau\rho\omega\tau\acute{o}\varsigma$, which is the zero grade of $*ster\bar{a}$, not of $*stor\bar{a}$, as Walde admits (p. 166).

d. *Zero Grade $p\omega$ explained by the Laryngeal Theory*

The explanation that the laryngeal theory gives of $p\omega$ is a simple one. Just as $p\bar{u}$ was explained as $r\check{h}_2 > ra\check{h}_2 > r\bar{a}$, one has here $r\check{h}_3 > ro\check{h}_3 > r\bar{o}$ (both developments only before consonant). This therefore presupposes that the vowel which developed between sonant and laryngeal was coloured by the laryngeal, namely in accordance with the original 'colour' that the laryngeal had in the proto-language. The preceding chapters have demonstrated that this original distinction was preserved down to Greek. There are various indications of such an influence of the laryngeal. In the proto-language it coloured the full vowel e to a or o ($eh_2 > ah_2 > \bar{a}$ and $h_2e > h_2a > a$). But in the individual languages too such an influence can be pointed to (but not on full vowel, since this had already been coloured in the proto-language and the laryngeals did not again appear before or after full vowel e). For Indian reference has already been made to the umlaut (!) in $r\check{h} > ir\check{h} > \bar{ir}$ before consonant, and ${}_em\check{h} > im(i)$; here the laryngeal itself was vocalized to i . In Latin $ra\check{h}$ from $r\check{h}$ as against $or < r$ and $na\check{h} < n\check{h}$ as against $en < n$ must be ascribed to the influence of the laryngeal ($\check{h} > a$). In Greek one could admittedly identify $p\bar{u}$, $ra\check{h}$ from $r\check{h}$ with $pa < r$, but there are two points against this. Firstly, $na\check{h} < n\check{h}$ differs from $a < n$, although here

the influence of the laryngeal is not a matter of colouring. Secondly, there are the Aeolic and Arcado-Cypriot forms (Lejeune, *Traité*, p. 168, Schwyzler, p. 341). Here one would expect $\rho\omega < r\tilde{h}_2$ beside $\rho\alpha < r$, instead of $\rho\tilde{a}$, if the laryngeal exerted no influence on the colour of the vowel. However, there is no evidence of this (one finds in Sappho $\kappa\rho\tilde{\alpha}\sigma\iota\varsigma \pi\lambda\tilde{\alpha}\sigma\iota\omicron\nu \tau\lambda\tilde{\alpha}\sigma\omicron\mu\alpha\iota$). It is therefore to be expected a priori that in a language where \tilde{h}_3 was vocalized to α , in contrast with $\tilde{h}_2 > \alpha$, $r\tilde{h}_3$ became $ro\tilde{h}$, as against $r\tilde{h}_2 > ra\tilde{h}$, since the α -colouring effect of \tilde{h}_2 can be demonstrated.

Having arrived at this point, one finds an excellent confirmation of the explanation defended here in an entirely different field. For $\eta\tilde{i} \ \eta\tilde{e} \ \mu\tilde{a} \ \nu\tilde{a}$ were assumed of old as the only representation (e.g. Brugmann, *Grundr.*, I², 1, pp. 417-23), beside $\tilde{r} \ \tilde{l} > \rho\omega \ \lambda\omega$. This combination is improbable. It has been found that $\eta\tilde{h}_2 \ \eta\tilde{h}_3$ were treated in the same way as $r\tilde{h}_2 \ \tilde{l}\tilde{h}_2$ ($\rho\tilde{a} \ \lambda\tilde{a} \ \mu\tilde{a} \ \nu\tilde{a}$), despite the difference $\tilde{r} > \alpha\rho/\rho\alpha : \eta\tilde{i} > \alpha$. In this way one finds in Latin complete parallelism of the nasals and the liquids (in the narrower sense): $r\tilde{a} \ \tilde{l}\tilde{a} \ m\tilde{a} \ n\tilde{a}$, despite $\tilde{r} > or$ as against $\eta\tilde{i} > em$. The same thing is found in Celtic, $n\tilde{a}$ (Gaul. *Cintu-gnātus*) beside $\tilde{l}\tilde{a}$, despite $\tilde{r} > ri$, ar/ra as against $\eta\tilde{i} > em$, am . (In Indian such parallelism does not exist, $\tilde{i}r : \tilde{a}$, but here the development of $r\tilde{h}$ is quite different too.) One may therefore expect $\mu\omega \ \nu\omega$ in Greek for $\eta\tilde{h}_2 \ \eta\tilde{h}_3$, but no example of this is found in the disyllabic roots. However, the development of $\nu\omega$ is demonstrable in the negative adjectives with ($\nu\tilde{a}$ - $\nu\eta$ -) $\nu\omega$ - p. 98 ff. The confirmation is all the more convincing, since there can be no question here of analogy within a verbal system. There can be no doubt about the original form of these adjectives, η followed by consonantal laryngeal. However, analogy does continue to be possible in the individual cases, e.g. for $\nu\acute{\omega}\nu\upsilon\mu\omicron\varsigma$, which, on the analogy of $\nu\omega$ - from words that began with α - \tilde{h}_3 -, may be derived from $\delta\nu\omicron\mu\alpha$ (or — less probably — on the basis of $\acute{\alpha}\nu\acute{\omega}\nu\upsilon\mu\omicron\varsigma$ with $\acute{\alpha}\nu$ - followed by compositional lengthening). However, it does not seem probable that the whole category $\nu\omega$ - (and $\nu\eta$ - = $n\tilde{e}$ -) came into being on the analogy of $\nu\tilde{a}$ - from words with $\acute{\alpha}$ - \tilde{h}_2 -. Words like Myc. *noperea*₂ ('*nōpheleha*', $\acute{\alpha}\nu\omega\phi\epsilon\lambda\acute{\eta}\varsigma$) $\nu\omega\chi\epsilon\lambda\acute{\iota}\alpha$ $\nu\omega\lambda\epsilon\mu\acute{\epsilon}\varsigma$ and ? $\nu\omega\delta\acute{\omicron}\varsigma$ do create the impression of being old and of going back to η - \tilde{h}_3 C-; see the relevant section.

The correspondence between these two forms, $\rho\omega \ \lambda\omega$ and $\nu\omega$, reduces the chance that we are concerned here with two entirely different forms of analogy that would have led to the same result.

Cowgill based his refutation of this view (p. 149) on W. Gr., Boeot. $\pi\rho\tilde{\alpha}\tau\omicron\varsigma$ as against Ion.-Att., Arc.-Cypr., Lesb. $\pi\rho\tilde{\omega}\tau\omicron\varsigma$, Thess. $\pi\rho\tilde{\omicron}\tau\omicron\varsigma$.¹⁰⁵ On the strength of Skt. *pūrvā*- and Lith. *pīrmas* (Lat. *prandium* < **prām-ed-iom*, with **prām*- < **pr̥h̥m*-, is uncertain) he posits as the original form **pr̥h̥3tos* and assumes that $\pi\rho\tilde{\omega}\tau\omicron\varsigma$ has been transformed after $\pi\rho\acute{\omicron}$, $\pi\rho\acute{\omicron}\tau\epsilon\rho\omicron\varsigma$. This interpretation is not imperative. Firstly, it is not certain that we have a \tilde{h}_3 here, secondly the basic form **pr̥h̥tos* is not certain. If, starting from a basic form **pr̥h̥tos*, one concludes \tilde{h}_3 on the strength of $\pi\rho\tilde{\omega}\tau\omicron\varsigma$, one therefore assumes a development $r\tilde{h}_3 > \rho\omega$; however, this is just what Cowgill tries to refute. If it is assumed that $\pi\rho\tilde{\alpha}\tau\omicron\varsigma$ is the phonetic continuation of **pr̥h̥tos*,

¹⁰⁵ The interpretation of Myc. *poroto* and *poroteu*, both proper names, is not sufficiently reliable.

there is no reason to assume \tilde{h}_3 and not \tilde{h}_2 . If the connection with $\pi\rho\acute{o}$ is correct, this in no way ensures \tilde{h}_3 ; Gr. $\pi\alpha\rho\acute{o}s$, Skt. *purás* has in my opinion either no laryngeal ($*p_e r\acute{o}s$) or \tilde{h}_2 ($*p\tilde{r}\tilde{h}_2\acute{o}s$), since $*p\tilde{r}\tilde{h}_3\acute{o}s$ would have given $*\pi\rho o\rho s$ in Greek (see p. 000). The full grade forms Skt. *prātár-*, Osc. *pruter* < $*pr\acute{o}ter$ may have had *o*-vocalism ($*pro\tilde{h}_2ter$, not necessarily $*pre\tilde{h}_3ter$).

However, a basic form $*p\tilde{r}\tilde{h}tos$ is not certain; the form is more likely to have resulted from a contraction (cf. Schwyzler, p. 595). The obvious $*\pi\rho o\alpha\tau o s$ would, however, likewise have given ω in Doric; cf. Lejeune, *Traité*, p. 236 with n. 1 (without any proof being adduced); Buck, *Gr. Diall.*, p. 42.¹⁰⁶ As $o\tilde{a}$ can give Dor. \tilde{a} , but in Attic remains $o\eta$ (or possibly becomes η ; Epidaur. Πραράτιος: Att. Προηρόσια, Πληρόσια), only the possibility of a group $\tilde{a}o$ remains; Lejeune, *Traité*, p. 235. Lejeune, *op. cit.*, p. 236 n. 1, considers $*\pi\tilde{r}\tilde{a}\tilde{f}o-\tau o s$, in which $*\pi\tilde{r}\tilde{a}\tilde{f}o-$ would correspond to Skt. *pūrvá-*. However, in that case one would still expect traces of the uncontracted form. Finally, one could also consider Doric metathesis $*\pi\rho o\alpha\tau o s > * \pi\rho o\tilde{a}\tau o s$, but this remains a hypothesis.

The form Dor. $\pi\rho\acute{o}\tilde{a}\nu$ (Att. $\pi\rho\acute{o}\tilde{\eta}\nu$) does not allow of any conclusion regarding $\pi\tilde{r}\tilde{a}\tau o s$. This form is found in Theocritus, viz. 5.14 $\pi\rho\acute{o}\tilde{a}\nu$ with short first vowel; 4.60 $\pi\rho\acute{o}\tilde{a}\nu/\pi\rho\acute{o}\tilde{a}\nu/\pi\rho\tilde{a}\nu$, metrically $\sim -$; 15.15 $\pi\rho\acute{o}\tilde{a}\nu$; 2.115 $\pi\rho\tilde{a}\nu$. If this form should go back to $*p\tilde{r}\tilde{h}_3\mu o-$ (Skt. *pūrvá-*), then $\tilde{r}\tilde{h}_3 > \rho\omega$ would appear for Doric. However, this is not certain in view of OHG *fruo*i — $\pi\rho\acute{o}\tau o s$, OHG *fruo* — $\pi\rho\omega\tilde{\iota}$, which points to $*pr\acute{o}\mu i-$ (for which $*pro\tilde{h}\mu i-$ is possible, if a laryngeal must be assumed). Moreover it does not show $\omega\tilde{a} > o\tilde{a} > \tilde{a}$, but only $\omega\tilde{a} > o\tilde{a} > \tilde{a}$, and that at a late date.

At present it is impossible to obtain certainty regarding these forms, but, as demonstrated, the word cannot be used as an argument against the development $\tilde{r}\tilde{h}_3 > \rho\omega$. Finally, consideration might also be given to dialectal development $\tilde{r}\tilde{h}_3 > \rho\tilde{a}$; cf. $\iota\alpha\rho\acute{o}s$: $\iota\epsilon\rho\acute{o}s$ and see p. 258 ff.

Another word that has been brought to the fore in this discussion is $\beta\lambda\omega\theta\rho\acute{o}s$. The word occurs twice in Homer, N 390 = Π 483 (identical passages N 389-93 = Π 482-6) $\pi\acute{\iota}\tau\upsilon s \beta\lambda\omega\theta\rho\acute{\eta}$ and ω 234 $\beta\lambda\omega\theta\rho\acute{\eta}\nu \delta\gamma\chi\eta\eta\nu$. The best connection within Greek seems to be that with $\beta\lambda\alpha\sigma\tau\acute{\alpha}\nu\omega$ if the latter has a stem $\beta\lambda a\theta-$, which is not certain. However, the basic forms $\beta\lambda\omega\theta-/ \beta\lambda a\theta-$ cannot have contained a laryngeal, since $\tilde{l}\tilde{h}_2$ would have become $\tilde{a}\tilde{a}$; see p. 245 ff. (possibly therefore $\tilde{l}\tilde{o}/\tilde{l}$). Since De Saussure the word has been connected with Skt. *mūrdhán-* 'head', OE *molda* 'highest part of the head, skull'. The Avestan cognate *kamərəda* 'head', for which the other forms point to $*kamard-$ (Kuiper, *Die Sprache*, 7.22), suggests PIE $*m\tilde{l}\tilde{h}dh-$.¹⁰⁷ However, from the semantic

¹⁰⁶ Thus Lac. $\delta\pi\acute{\alpha}\rho\tilde{a}$ < $*op-osar-$, which Frisk maintains s.v. $\delta\pi\acute{o}\rho a$, is incorrect. The two forms will go back to one basic form, but in my opinion this etymology does not permit of this, so that its correctness must be doubted. The two vowels can only go back to $\tilde{a}o$, see the text above; the \tilde{a} of this could be based on compositional lengthening (i.e. for example $*op-\tilde{a}\tilde{i}or-$).

¹⁰⁷ The connection with $\kappa\mu\acute{\epsilon}\lambda\epsilon\theta\rho a$ (pl., Pamphil. ap. EM 521.34) 'beam', $\mu\acute{\epsilon}\lambda a\theta\rho o\nu$ (Il.) 'roof-tree, ridgepole', is not very probable. This word (possibly $*kmelh-dhr-$) seems more likely to be non-IE; semantically, too, the similarity is not very convincing. Cf. for ϵ/α $\beta\acute{\alpha}\rho a\theta\rho o\nu/\zeta\acute{\epsilon}\rho e\theta\rho o\nu$, p. 193. For κ /zero with these words see Kuiper, *Mνήμης χάριν*, p. 213, n. 9 (κ before vowel).

point of view the connection is weak; moreover, the meaning 'high' for βλωθρός seems nothing more than a useful guess; it could also mean 'flowering, üppig', especially if the connection with βλαστειν is correct; cf. τηλεθώσα (beside μακρή) as epithet of trees. Thus nothing can be said for sure about the original form of βλωθρός and it may therefore not be used in a single respect as an argument. Cowgill, p. 149, considers **mloh₂dhro-*, with *o*-vocalism as in σφοδρός; however, it is the question whether σφοδρός is IE, see p. 188 s.v. σφαδάζω. If the form γλωθρός in (ps.-) Hes. *Cat.*, pap. H (fr. 96 Rz.³) vs. 86, is a variant, the word is of non-IE origin (cf. p. 193 f.). However, West (*Glotta* 41 (1963) 282-5) is of the opinion that it is an hyper-Ionism, and thus an artificial form. It would have been formed on the example of Att. βλήχων : Ion. γλήχων. The idea seems improbable to me.

πρωκτός, Arm. *erastank*^c is of importance here if these forms go back to **prākt-* (Meillet, *Esquisse*², p. 142); however, there is no further indication of *h₃*. For another explanation see p. 247.

The form τεθρᾶσθαι· ὀχεῦσθαι Hsch. (Cowgill, p. 149), which seems cognate with θρώσκω (cf. θαρνεύει· ὀχεύει Hsch.), would point to the same divergence as πρᾶτος : πρῶτος. It is not known from which dialect τεθρᾶσθαι comes.

The two forms πρᾶτος and τεθρᾶσθαι ('my only pieces of evidence', Cowgill, *loc. cit.*) are in my opinion insufficiently serious objections to the development *rĥ₃* > *roh₃* > *ρω*.

2. ZERO GRADE *Rĥ₃* BEFORE VOWEL

For zero grade *Rĥ₃* before vowel the development can also be demonstrated. Those of *TeRĥ₃* and *T_eRĥ₃* are much more difficult to demonstrate and consequently will be discussed later.

We are concerned here with the forms of the type ἔπορον. It is probable that all thematic aorists are transformations of old athematic ones (Wackernagel, *Festgabe Jacobi*, p. 16f., Kuiper, *Nasalpr.*, p. 76:6). One would therefore like to assume such an origin for ἔπορον as well, but in that case the *o*-vocalism is striking, for one expects either the *e*-vocalism of the singular or the zero grade of the plural of the athematic aorist. In the latter case, which is by far the more frequent, if not the only, one in Greek (see p. 224f.), Greek therefore has *αR* from vocalic sonant (*R̥*). Accordingly one would therefore have to start from **é-perĥ₃-ŋi* (or **é-preĥ₃-ŋi*) **é-prĥ₃mes é-prĥ₃-ent* for ἔπορον. This athematic aorist is suggested by Skt. imp. *pūrdhī* < **prĥ₃-dhi*. The latter form would have given **πρωθι* in Greek; the singular would have retained the *e*-vocalism (possibly had *πρω-* from **preĥ₃-*). That is why Kuiper, *India Antiqua* (1942) 199, explained *πορ-* by the zero grade before vowel, i.e. 3 pl. **é-prĥ₃-ent* > **ἔπορεν*.¹⁰⁸ This therefore presupposes that the *h₃* here coloured the

¹⁰⁸ Phonetically ἔπορον might perhaps have developed here, but in this form the ending would in my opinion have been analogically restored. The question is further irrelevant here. Incidentally, it is quite possible that the transformation to the thematic declension took place earlier, so that one could start from 1 sg. **é-prĥ₃-om*, which we shall do from now on for simplicity's sake. Cf. also p. 251.

vowel that developed before the vocalic sonant (ἔπορον, not *ἔπαρον). With the development of $\rho\omega$ from $r\hbar_3 > ro\hbar_3$ the development which this explanation presupposes is in principle identical, although there might be a gradual difference: $r\hbar_3 > ro\hbar_3 > \rho\omega$ could be accepted and $r\hbar_3 > or\hbar_3 > op$ rejected.

The forms of this type are: ἔπορον, ἔμολον, ἔθορον (all Il.) and ἔτορε (Λ 236).

Lehmann, *PIEP* (1952), p. 93 f., arrived at the same idea, evidently without knowing Kuiper's article and, so it seems, Ruipérez, *Emerita* 18 (1950) 402 f., did too, although he is not entirely clear here. He rejects Schwyzler's idea (p. 362) that in these forms σ before vowel had been lost and adds, although he expressly states that Schwyzler regards *ἔθαρε as the original form, that he cannot accept this theory, "segun la cual...el timbre de la vocal reducida o laringal habria afectado al timbre de la vocal de apoyo desarrollada delante de la sonante" (p. 402). The reason why he rejects this explanation is very interesting: for one would expect the form *ἔβελον beside (instead of ?) ἔβαλον. In my opinion there are indications that these forms did in fact exist; they will be discussed in a following section (p. 221). It is surprising that Ruipérez did not see this.

Hiersche, *IF* 68 (1963) 149-59, is of the opinion that πορεῖν owes its vocalism to an athematic present with o -vocalism (see p. 131 n. 60), connecting it with Germ. *faran*, Russ. *porot*'. Assuming that such a present did exist of the stem **perh₃*-, it does not seem probable that this form, which has disappeared entirely in historical Greek, exerted influence on the aorist. For this would have had to have happened not long before historical time if πορ- has replaced *παρ- < **prh₃*-.

It is not clear what Lehmann (p. 94) means by the remark that in ἔμολον "the laryngeal was lost before lengthening the reflex of the resonant; in others [e.g. βλώσκω] it changed both the colour and the quantity". (One gains the impression that he is referring to the type ὀρθός ὀργή discussed immediately before and that "e.g. μόλειν" is an error for "e.g. ὀργή".) As the lengthening in $\rho\omega$ (στρωτός) is based on compensatory lengthening for the loss of a consonant (**stprh₃to* > **stroh₃to* > **strōto*), there can be no question of this with **élprh₃om*; see the criticism in Kuiper, *Lingua* 5 (1955) 319-24. However, the following may be considered a problem. If the o developed when the laryngeal was still spoken, which seems probable, a long syllable comes into being which thereupon, when the laryngeal disappeared, became short again: **élprh₃om* > **élporh₃om* > **élporom*. That, however, in the latter case no lengthening occurred is also evident from γένος βέλος, p. 180. Moreover, it may be asked whether the assumption of an intermediate phase **éporh₃om*, in which both o and \hbar_3 are independent phonemes, is correct and whether one should not instead posit **ép_or_hom*, with *o* as (Greek) o -coloured variant of *r*, of which the *o* became an independent phoneme upon the fall of the laryngeal. See further p. 230.

Cowgill (p. 147 f.) doubts this explanation of ἔπορον on the strength of the fact that with $r\hbar_3$ before consonant there could already be no question of colouring, since after all he assumes that $\rho\bar{u}$ was the normal development here. As we have seen, this doubt is not sufficiently founded. There are the objections stated above (p. 212) to his

explanation with the aid of analogy: if $\rho\bar{a}$ and $\alpha\rho$ are phonetic, there is insufficient basis for analogic extension of *o*-vocalism.

It would be good support for the development discussed here if this could also be demonstrated in a case where analogy is out of the question, or where an entirely different analogy would have to be assumed than in the verbal forms. Kuiper, *Shortening*, p. 24, thought of $\pi\omicron\lambda\upsilon\varsigma$ and $\pi\acute{o}\lambda\iota\varsigma$.

For $\pi\omicron\lambda\upsilon\varsigma$ Skt. *pūrvī* points to laryngeal, $*p\check{l}h\text{-}u\text{-}i\check{h}_2$. In that case the *o*-vocalism could be explained from an original declension $*p\acute{e}lh_3\text{-}u\text{-}s$ $*p\check{l}h_3\text{-}\acute{e}u\text{-}s$ etc. ($*\pi\acute{\epsilon}\lambda\upsilon\varsigma$ $*\pi\omicron\lambda\acute{\epsilon}\upsilon\varsigma$). However, there is no other indication of h_3 and the comparative and superlative $\pi\lambda\acute{\epsilon}\iota\omega\varsigma$ $\pi\lambda\acute{\epsilon}\iota\sigma\tau\omicron\varsigma$ ($*pleh_1\text{-}ison\text{-}$, $*pleh_1\text{-}isto\text{-}$) would then have to be separated from $\pi\omicron\lambda\upsilon\varsigma$, which is improbable. It need not be surprising that the comparative is of a different stem from the positive (Lat. *multus* — *plus*, Germ. *viel* — *mehr*), but it is improbable that PIE would have had $*pelh_1\text{-}$ as against $*pelh_3\text{-}$ for this, since the correspondence is too great to be coincidental. However, certainty about this is impossible at this moment. If the stem did in fact have h_1 then one must, as with $*ploth_2\text{-}us$ $*p\check{l}th_2\text{-}eu\text{-}s$ (p. 179), start from $*p\acute{o}lh_1\text{-}u\text{-}s$ $*p\check{l}h_1\text{-}\acute{e}u\text{-}s$ (which latter form would in my opinion have given $*\pi\epsilon\lambda\acute{\epsilon}\upsilon\varsigma$ in Greek). OE *feala* (Meillet, *Intr.*⁸, pp. 162, 261) cannot, however, be regarded as proof of $*polh_1us$, cf. Sievers, *Ags. Gr.*³, p. 51, Kluge, *Urgerm.*³, p. 146. For $\pi\omicron\lambda\lambda\acute{\eta}$ see p. 241.

For $\pi\acute{o}\lambda\iota\varsigma$ Skt. *purás purám purá*: *pūr pūrṣú pūrbhiḥ* suggest a stem ending in laryngeal; here the zero grade $p\check{l}h\text{-}$ was generalized. Lith. *pilis* (*i*-stem after the accusative *pilī*, with $i < \eta$) points to the same thing. The Greek stem form could therefore have been generalized from ante-vocalic $*p\check{l}h_3\text{-}$. As it is not possible to demonstrate the h_3 in another way, the proof remains scanty.

These two words cannot therefore be used as argument. Cf. further p. 221 ($\check{R}h_1$ before vowel) and p. 239 ($\theta\omicron\upsilon\rho\omicron\varsigma$, $\kappa\omicron\upsilon\rho\omicron\varsigma$). See Add.

3. ZERO GRADE Rh_1 BEFORE CONSONANT

Before dealing with the possible other forms of disyllabic roots with h_3 ($TeRh_3$ and T_eRh_3), which are very tricky to demonstrate, it is clearer first to discuss the parallel developments of Rh_1 , both before consonant and before vowel.

After the above one may expect beside $\rho\bar{a}$ and $\rho\omega$ a zero grade $\rho\eta$ before consonant, which can be explained with the aid of the laryngeal theory as $\check{r}h_1 > reh_1 > r\bar{e}$, $\rho\eta$.

It is striking that this form has been seldom discussed; this is probably because there are only a few forms (which, however, also applies to $\rho\omega$) and owing to the fact that the Ion.-Att. transition $\bar{a} > \eta$ sometimes makes it difficult to determine the original colour (as will appear).

One finds in the verbal adjective: $\kappa\alpha\sigma\acute{\iota}\gamma\eta\tau\omicron\varsigma$, $\tau\eta\eta\tau\acute{\omicron\varsigma}$, $\kappa\lambda\eta\tau\acute{\omicron\varsigma}$, $\acute{\epsilon}\upsilon\tau\mu\eta\tau\omicron\varsigma$ (or $\acute{\epsilon}\delta\tau\mu\eta\tau\acute{\omicron\varsigma}$), $\acute{\alpha}\pi\acute{o}\beta\lambda\eta\tau\omicron\varsigma$, $\rho\eta\tau\acute{\omicron\varsigma}$, all Il.

It will be shown in the next section that *τμητός* stems from a disyllabic root with *h*₁.

Beside *βλητός*, which occurs relatively late (Hp.), the *Iliad* already has *ἀπόβλητος* (B 361 Γ 65) and *ἀνάβλησις*. The zero grade **g^uh₁-* also in Skt. *ud-gūr-ḡá-* (*guráte* 'lifts up').

No-one has doubted that Greek *ē* is concerned here. This can also be demonstrated with the following forms.

Τρητός has *η* both in Pindar and in Attic (Pl., Arist.), where one would otherwise expect *ā* after *ρ*.

Beside *κλητός* (I 165 ρ 386), *ἐπίκλησις* (Il.), Aeolic also has *κλῆσις* (Bechtel, I, p. 32), in which *ā* would have been preserved (cf. *πλάσιον* Sapph.).

For *κασίγνητος* Ionic inscriptions point to *ē* (Lejeune, *Traité*, p. 205), whilst it also occurs in Alcaeus (L.P. N 1.12 *κ|ασιγνήτων*), in Sappho (5.2 *κασί|γνητον*, 5.9 *κασιγ|νήταν*) and in Pindar and on Corcyra (*JHS*, 54.65); Thess. *κατί|γνειτος*] is of no use here.

**ῥητός* (Φ 445; *παρρητός* I 526 N 726; thus LSJ, *παράρρητοί* (τε) I 526 edd.); *η* also in Doric, e.g. Arg. *φερημένος*.

It is an arbitrary statement to say that all these forms are analogic. For *-γνητος* this is highly improbable, owing to the fact that no other forms with *γνη-* occur; on the contrary, the stem *γεν(ε)-* seems to have spread. The stem *γενη-* must be a Greek innovation, having regard to its structure; the forms are only recent: *γεγένημαι* Simon., *ἐγεγένητο* Thuc., *γενήσομαι* Pl.

Nor is there reason to regard these forms as old full grade, as for instance Frisk (s.v. *βάλλω*) does, referring to *πλήρης*. Cf. the hesitation in Chantraine, *Morph.*², p. 9, Rem. It is true that from the root **pelh₁-/pleh₁-* Lat. *im-plētus*, Skt. *prātá-* (only RV VII 16.8), Lat. *plēnus* (probably for older **plānus*), Skt. *prāṇá-* (lexicogr.) correspond, but these may very well be parallel innovations. The expected zero grade here is found in Skt. *pūrṇá-*, Lith. *pilnas*, OIr. *lán*, Goth. *fulls*. Avoidance of identity with **pelh₂-/pleh₂-* in the zero grade will have played a part here. This is clearly an independent case, which may not be used as a starting-point for a general theory.

For *-γνητος* zero grade is demonstrated by Skt. *jātá-*, Av. *zāta-*, Lat. (g)*nātus*, Gaul. *Cintu-gnātus Ari-gnātus*.

It is clear that *κασίγνητος* is an old word: a word to indicate a family relationship, of which the origin of *κασι-* can no longer have been clear to the Greeks in historical times either. Kuiper gives a convincing derivation from **kḡ-ti* (which is to *κατά* as *περί* is to *παρά*, etc.), of which **kḡ* is the zero grade of **kom*, Lat. *cum* (*Glotta* 21 (1933) 287, with semantic and formal parallels). Lejeune (*BSL* 55 (1960) 20-6) arrived (independently of Kuiper) at about the same interpretation by connecting *κασι-* < *κατι-* with Hitt. *kati-* 'with' (for the meaning cf. *συγγενής*, *cognātus*), which he regards as the locative of the stem to which *kata* and *katan* belong (Gr. *κατά*, see Frisk). He suggests for Myc. *kasikono* the interpretation 'kasikonos' 'collaborator' (cf. *διάκονος* etc.). For the meaning and the relationship with *γνήσιος* see Chantraine,

ibid., pp. 27-31. Κασίγνητος is thus formally practically identical with Lat. *cognātus*, of which the second element goes back to **-ǵn̥h₁tos*.

The importance of the form κασίγνητος in this context cannot in my opinion be overestimated: in itself it is adequate to prove the laryngeal theory, and in the form defended here, that the three laryngeals were preserved down to Greek separately. For κασίγνητος has η, which is not the Ionic-Attic development of ā; it is an old word and cannot be analogic: **γνητός* does not occur in Greek in itself (one finds it in proper names, Διόγνητος etc. (VI c., Bechtel, *HP*, p. 109) and in γνήσιος); there is not a single reason to assume PIE full grade **ǵneh₁-* here: from a morphological point of view one expects zero grade, and the related languages also point in that direction (Skt. *jātá-*, Av. *zāta-*, Lat. *nātus*, Celt. *-gnātus*; cf. Skt. *jāti-*, Lat. *nāti-o*) and notably the parallel *cognātus*. This therefore gives Gr. νη < ηh₁. This development can be explained only by assuming a consonantal element after η (otherwise one would expect *nā₁* > νε). The *e*-colouring must also be ascribed to this element (the laryngeal) as against the universally recognized *pā* < *r̥h₂* (and against *r* > ρα, Aeol. πο), and also the development of η to CV (not > α). This therefore confirms that h₁ and h₂ were still separate phonemes in Greek (like h₃ as emerges from ρω). See Add.

Two points may be established on the strength of this. Firstly that η, and therefore probably also η̃, followed by laryngeal underwent the same development as *r̥ l̥* + h. There is consequently not the slightest reason for the formerly assumed division ρω λω : μῦ νῦ. Secondly, it is evident from ρη < *r̥h₁* that one may certainly speak of *e*-colouring laryngeal, and not of the non-colouring laryngeal (although this effect has remained only in Greek and can only be identified in that language).

The development ηh₁ > νη assumed here is confirmed by νήγρετος and νηλεής, of which the original form began with η + h₁; see p. 107 ff. Reference has already been made to the importance of this parallel in the discussion of *r̥h₃* > ρω, p. 214 f.

The same development is also found in βλήτο, where one expects zero grade and which will therefore go back to **gʷl̥h₁-to*, and in πλήτο < **pl̥h₁-to*, cf. p. 95.

4. THE PARALLELISM WITH ITALIC AND CELTIC

The Greek developments of the zero and the reduced grade have a parallel in Italic and Celtic, *pā apa : rā ara* (both before consonant). In the other languages (apart from Indian) these two forms have coincided owing to the fact that in the zero grade, *R̥H*, a vowel developed *before* the sonant (or rather the sonant developed into *VC*); both *R̥H* and *̣RH* thus became *VRH*, which coincided. The essential difference from the development in Greek, Italic and Celtic is therefore that here the sonant in *R̥H* became *CV*, after which the vowel was lengthened when the laryngeal disappeared in anticonsonantal position: *R̥H* > *RaH* > *Rā*. It is not so that in the languages mentioned the sonant always became *CV*, for in Latin *r̥ l̥ n̥* became *or ol em en* respectively in another position. The development into *rā lā mā nā* must therefore be

ascribed to the influence of the laryngeal. The parallelism cannot therefore be explained by other common characteristics of these three linguistic groups.

Nor is a joint intermediate phase between $R\check{h}$ and $R\bar{a}$ conceivable in my opinion; for Italic and Celtic this possibility may be considered, but the Greek development $r\check{h}_1 r\check{h}_3$ into $\rho\eta \rho\omega$ excludes the possibility of common development in the three linguistic groups. For between $R\check{h}$ and RaH ($R\bar{a}$) only something like R_eH is conceivable. Now it is true that $_e r\check{h}_1 > \epsilon\rho\epsilon$ $_e r\check{h}_3 > \omega\rho\omega$ (it should be noted that neither of these developments has been demonstrated for certain) as against Ital. Celt. $_e r\check{h} > ara$ must be ascribed to influence of \check{h}_1 and \check{h}_3 on the reduction vowel which first occurred in Greek (otherwise one would have expected $_e r\check{h}_3 > _e r\check{h}_3 > \text{Lat. } or\check{h}_3$, e.g. **pors* instead of *pars*); but it seems to me out of the question that in a common intermediate phase R_eH the vowel $_e$ that developed before the laryngeal would not have been coloured by the latter. As the laryngeals retained their colour down to Greek, the original colour ought also to have been present in this intermediate phase. But in that case $Re\check{h}_1 Ro\check{h}_3$ (from $R\check{h}_1 R\check{h}_3$) ought to have given $R\bar{e}$ and $R\bar{o}$ in Latin and Celtic too. As this is not the case, such an intermediate phase cannot have existed. (For Italic and Celtic a common phase R_eH , R_aH or RaH would be conceivable.)

One can therefore establish only a parallel development.

5. ZERO GRADE $R\check{h}_1$ BEFORE VOWEL

Parallel to op (and ap) before vowel from $r\check{h}_3$ (and $r\check{h}_2$; $\epsilon\pi\omicron\rho\omicron\nu$, $\epsilon\kappa\alpha\mu\omicron\nu$) one may expect $\epsilon\rho$ from $r\check{h}_1$ in the same position, as Ruipérez postulated (p. 217). There are in my opinion a few forms in which this development can be pointed to. The aorist $\epsilon\beta\alpha\lambda\omicron\nu$ from $\beta\acute{\alpha}\lambda\lambda\omega$ was assumed to go back to $*\acute{\epsilon}-g^u\check{h}_1\text{-om}$. Here one would therefore expect on the grounds of the foregoing Gr. $*\acute{\epsilon}\delta\epsilon\lambda\omicron\nu$, and this form is in fact found in $\epsilon\zeta\epsilon\lambda\omicron\nu$ $\epsilon\beta\alpha\lambda\omicron\nu$ Hsch. (with Arc. $\zeta < \delta$). In addition one finds in Arcadian a present $-\delta\acute{\epsilon}\lambda\lambda\omega$. What the historical relation is between these forms, $\beta\acute{\alpha}\lambda\lambda\omega$ — $\epsilon\beta\alpha\lambda\omicron\nu$: $-\delta\acute{\epsilon}\lambda\lambda\omega$ — $\epsilon\zeta\epsilon\lambda\omicron\nu$, will be discussed below. Reference may first be made to the exact parallelism with $\tau\acute{\alpha}\mu\nu\omega$ — $\epsilon\tau\alpha\mu\omicron\nu$: (Att.) $\tau\acute{\epsilon}\mu\nu\omega$ — $\epsilon\tau\epsilon\mu\omicron\nu$. Consequently, one might consider whether a root $*tem\check{h}_1\text{-}/tme\check{h}_1\text{-}$, not $*tem\check{h}_2\text{-}/tme\check{h}_2\text{-}$, forms the basis here. H_2 has been concluded on the strength of Doric \bar{a} ($\tau\mu\bar{a}\text{-}$ and $\tau\mu\acute{\alpha}\gamma\omega$) in Theocritus and Archimedes. However, these forms have no irrefutable admissibility as evidence, see Schwyzler, p. 185, Zus. 2. (In Theocritus $\tau\mu\bar{a}\text{-}$ is found only in $\delta\acute{\iota}\epsilon\text{-}\tau\mu\acute{\alpha}\xi\epsilon\nu$ 8.24; on the other hand there is $\tau\mu\eta\tau\acute{\omicron}\varsigma$ 25.275. Archimedes uses $\tau\mu\bar{a}\text{-}$ and $\tau\mu\eta\text{-}$ indifferently: ‘oberflächlich dorisiert’ (?), Schwyzler, p. 116.) Moreover, the derivatives of $\tau\acute{\alpha}\mu\nu\omega$ tend more to point in the direction of \check{h}_1 than \check{h}_2 . There are three of them, $\tau\alpha\mu\epsilon\sigma\acute{\iota}\chi\rho\omega\varsigma$, $\tau\acute{\epsilon}\mu\epsilon\nu\omicron\varsigma$ and $\tau\acute{\epsilon}\mu\alpha\chi\omicron\varsigma$. However, these are not of equal age. $\tau\alpha\mu\epsilon\sigma\acute{\iota}\chi\rho\omega\varsigma$ is evidently a relic; it occurs in Δ 511 and Ψ 803, on both occasions $\tau\alpha\mu\epsilon\sigma\acute{\iota}\chi\rho\omega\alpha$, connected with $\chi\alpha\lambda\kappa\acute{\omicron}\nu$, and N 340 (probably a more recent use, $\epsilon\gamma\chi\epsilon\acute{\iota}\eta\sigma\iota$ | $\mu\alpha\kappa\rho\eta\acute{\iota}\varsigma$, $\acute{\alpha}\varsigma$ $\epsilon\acute{\iota}\chi\omicron\nu$ $\tau\alpha\mu\epsilon\sigma\acute{\iota}\chi\rho\omega\alpha\varsigma$), each time after the penthemimeres. That $\tau\acute{\epsilon}\mu\epsilon\nu\omicron\varsigma$ is old is

proved by Myc. *temeno* (*Docs.*, p. 266). The latter form may be derived without difficulty from **temh₁-* (cf. βέλε-μνον).¹⁰⁹ In ταμεσίχρως too the ε may have developed from *h₁*. For the α see below. On the other hand τέμαχος 'slice of fish' Hp., Ar., is more recent, and ought therefore to have the α analogically from other forms ending in -αχος. True, these are not very frequent, Schwyzer, p. 498:8 (influence of στόμαχος ?), but it is important that -εχος does not occur at all (cf. the problem of δόλιχος, p. 238). In my opinion this explanation is to be preferred to that which postulates assimilation from **τεμανος* (cf. what is said on p. 206 about words with this vocalic structure) and metathesis (!) in **τεμασίχρως* (starting from **ταμασίχρως* the explanation would be even more difficult). See Add.

The future τεμέω (Hp.), τεμῶ (E., Th.) can be most simply explained from **temh₁-s-*; a root **temh₂-* would have led one rather to expect **τεμάω*. The evidence is weakened by the fact that the form cannot be demonstrated as having occurred at a very early stage and, above all, because futures ending in -έω also occur from *h₂*-stems, e.g. καμῶμαι (Hom.). However, it is striking that, while these futures seem to have been built on the (thematic) aorist (Schwyzer, p. 784), Ionic has (τάμνω) τεμέω ἔταμον; this seems to suggest that this future is not analogic, but does in fact go back to **temh₁-s-*. (If it is nevertheless built on the aorist, it does in any case point to an aorist ἔταμον in an earlier phase of Ionic.)

After the above had been written, I saw that B. Forssman, *Unt. z. Spr. Pindars*, 1966, p. 158 ff., came to the same conclusion on the strength of Pi. I. 6.22, where the manuscripts all give τέτμηνθ', which modern publishers alter into τέτμανθ'. This form therefore gives a neat confirmation of the hypothesis.

If it is assumed that ἔζελον ἔταμον were the phonetic aorists, ἔβαλον ἔταμον must have their vocalism from the present, while on the other hand -δέλλω and τέμνω ought to have been formed on the analogy of the aorist. In βάλλω τάμνω the vocalism is easy to explain: τάμνω here suggests a nasal present, i.e. **tm-n-eh₁-mi*. For the existence of nasal presents of disyllabic roots with *h₁* and *h₃* see p. 250ff. In the same way βάλλω will therefore also have been formed from **g^ul-n-eh₁-mi*. An *iō*-present (Frisk) is conceivable only as a Greek formation, proceeding from the aorist stem βαλ-, but this was, as we saw, δελ- (-δέλλω may then thus have developed in this way). For one would expect **βληνω* from PIE **g^ul_{h1}-iō* (cf. Skt. *jīryati* < **g^ul_{h2}-iō*).

¹⁰⁹ Jacqueline Manessy-Guitton, *IF* 71 (1966) 14-38, is of the opinion that τέμενος is non-IE and derives it (in emulation of Ch. Autran) from Sumerian *temen* 'barillet de fondation', Akkadian *temennu* etc., which is also said to be found in place-names in Palestine. It seems to me inconceivable that a Sumerian word, even if it is used as a place-name in Palestine, entered Greek in the living language. Further an Ugaritic form *tmn*? is mentioned. The semantic similarity is also slight.

Her objections to IE origin are just as inadequately founded. In my opinion there is not a single reason to doubt that we are concerned with a disyllabic root. The assimilation from τεμα- < **temh₂-* (or from the aorist stem ταμε-) also seems an objection to me, but this disappears if the laryngeal was *h₁*. It is certain that -nos was a suffix of the proto-language; it is found in ἔρνος and ἔθνος, and also τέμενος can therefore go back to **temh₁-nos*. It is possible that ἔρνος is derived with the suffix -os from a stem ending in -n, but the same is then also possible for τέμενος. That the stem τεμεν- does not occur elsewhere is not essential: in the case of ἔθνος too no n-stem can be pointed to.

Of importance here is Aeol. τόμοντες (Alc. L.P. G 1.15), although in my opinion a compelling interpretation is not possible here. The *o* of the stem can hardly go back to PIE *o*; *o*-vocalism is to be expected only in the perfect (the old form would have been *τέτομα, pl. *τέτμημεν) or possibly in an athematic present (*tomh₁mi), but there is no trace of either. It is therefore most likely that the *o* is based on an Aeolic development of *η*. This may have occurred in the present *t_hneh₁mi > *τόμνημι. A more difficult question is whether *étmh₁om would have become *έτομον in Aeolic. For it is conceivable that here the laryngeal determined the timbre of the vowel, so that έτεμον developed here as well. On the other hand, it is possible that, despite the *h*₁, *o* nevertheless occurred in Aeolic. To support the one argument one can point to Aeolic κάματος (Sapph.), θάνοντες (Alc.), where *dh₁mh₂- became θαν-, and in support of the second to χόλαισι (Alc., = χαλῶσι) and ὄν as against ἀνά; however, laryngeal is not entirely certain in the case of the last two words. Moreover, it is possible that *h*₂ did colour to *a* and *h*₁ did not colour to *e*. But what seems to me to be the most important point is that the form έζελον occurs in Arcadian, where one finds the same development of the sonants as in Aeolic. It is therefore most probable that *étmh₁om became έτεμον in Aeolic and Arcado-Cypriot. The form τόμοντες found then indicates that here the aorist borrowed the vocalism of the present. Beside Ion. (Dor.) τάμνω έταμον and Att. τέμνω έτεμον (both normalized from τάμνω έτεμον), these dialects must therefore have had *τόμνω έτομον (from *τόμνω έτεμον).¹¹⁰ (It is interesting to see that Theocritus has a system τέμνω έταμον, a consequence of the Greek rule *e*-vocalism in the present, zero grade (*a*-vocalism) in the thematic aorist. See for the distribution of the forms now Forssman, *Glotta*, 44 (1966), 5-14.) See Add.

Attempts have been made to explain έτεμον (and thus έζελον) in another way. However, in my opinion the two solutions suggested are improbable.

Τέμνω έτεμον could have developed under the influence of a present *τέμω, which was surmised in N 707 τέμει δέ τε τέλσον άρουρης. Ebel, *KZ*, 2.48, pointed out, however, that here τέμει cannot mean 'cuts', and translates it by 'achieves', as a present of έτετμον; so does Chantraine, *Gr. Hom.*, p. 309. This meaning does in fact fit in excellently as the climax of a typically Homeric simile like this (703-7), for which compare Σ 541-7 (this passage may be more recent, but that has little effect on the value of the parallel for the content). On the other hand there is no semantic indication of any relationship between τέμνω and έτετμον. There is consequently no indication of *τέμω (any more than of *δέλω), although in principle the possibility

¹¹⁰ In general the representation of *η η* in these dialects presents a problem. Cf. Lejeune, *Traité*, p. 169. The same problem is found in Mycenaean, which has *or/ro*, but has *a* for *η* and *η*. Ruijgh, *Inleiding tot de Mycenologie*, 1966 (privately circulated), § 29, is of the opinion that this is the only phonetic representation (*akittito* άκτιτος, *astero* < *sm₁teros). In his view the type *pemo* beside *pema* is analogic: *ām₁ *ām₁tos gave *āmor *āmatos here, which was replaced by *āmop *āmotos or *āmop *āmotos, and, by analogy with this, one has -ma(tos) and -mo(tos) side by side. Thus one would in that case have to suppose that the secondary -otos (in -op -otos) would have influenced the ending -ματος, since it is not evident that -or -otos influences -ma -matos. Incidentally, the type -or -otos is not yet demonstrable, as far as I am aware.

of such a form cannot be denied (cf. Skt. *jáyati* < **g^ueġh₃-eti*). However, in that case the *nō*-present has no historical explanation.

Influence of the future *τεμοῦμαι* (Chantraine, *Gr. Hom.*, p. 314) also seems less probable to me, in view of the slight influence of this category in general (cf. p. 000).

The other explanation, proffered by Wackernagel (*Sprachl. Unters. z. Hom.*, p. 14), is the one generally accepted (Specht, *KZ*, 59.98, Schwyzler, p. 746,7 (cf. 3), Chantraine, *Gr. Hom.*, p. 391, Frisk s.v. βάλλω). This explanation proceeds from an original athematic aorist **é-temā-t é-tmā-ent*, and assumes that *ἔτεμον* is based on the full grade of the singular, i.e. **é-temh₁-om*. However, it is not clear why this did not occur with disyllabic roots with *h₂* as well. True, only a small group of words is concerned here, but all the same it is striking that with the stems ending in *h₂*, which are much more frequent than those ending in *h₁*, there is no trace of forms with *e*-vocalism, whilst in the case of both stems ending in *h₁* forms with *e*-vocalism occur. This tends rather to suggest that *h₁* is the cause of these forms.¹¹¹ Further, *ἔταμον* was derived from **e-tmā-om*, so that the existence of **e-tmh₁-om* (or in general **tmh₁-e/o-*) was recognized in any case.

Quite apart from this, there are other objections to this explanation, which will be successively discussed: a. with the exception of the disyllabic roots with *h₁* practically all Greek thematic aorists are derived from a zero grade; b. in Greek nothing suggests an aorist of the type **étemh₁-t*; c. in one case in which this type can be identified, Greek nevertheless has its thematic aorist derived from the zero grade.

(a) The thematic aorist in Greek is discussed by Schwyzler, p. 746 ff. Those with full grade (p. 746 b 1) must in this connection be divided among three groups:

- (1) *ἔτεμον* and *ἔξελον*, which are under discussion here;
- (2) the type *ἔπορον*, which in any case cannot be explained either from **é-perh₃-om* or from **é-preh₃-om* and in all probability goes back to a zero grade, as stated on p. 216 ff.;
- (3) a remaining group that will be discussed here.

Re 3. Clearly secondary is *ἀγέροντο ἀγέρεσθαι* as against *ἡγρετο ἀγρόμενος* (Chantraine, *Gr. Hom.*, p. 395: “semblent avoir été créées pour les besoins du mètre”. In the same way Ruijgh, *Etudes*, p. 67, with n. 95: **ἀγέρω* beside *ἀγείρω* (cf. *δέρω/δείρω*). “Le prétérit ἡγερόμην a fini par être pris pour un aoriste vis-à-vis du présent ἀγείρομαι (...), bien que l’aoriste thématique ait normalement le degré zéro (ἡγρόμην)”. For *πέρθετο*, see Chantraine, l.c., p. 389 f., for *ῥρετο* *ibid.*, p. 392. In *ἀπεχθήσθαι* one has an imperfect which functions as aorist since the characteriza-

¹¹¹ Forssman, *loc. cit.*, p. 5, n. 3, also seeks the reason here, but gives a different explanation. The 3 sg. **e-temh₁-t* became *ἔτεμε*, which linked up with the thematic aorists, but in the case of **e-kemh₃-t* > **έκεμα* this link was more difficult on account of the -α (one would expect here a ‘pseudo-sigmatic’ aorist of the type *έχε(υ)α*). The origin of all thematic aorists must, however, be sought in the transition to the thematic declension (e.g. **é-drk-(e)nt* becomes **é-drk-ont*), which is not dependent on the ending of the stem (-*h₁* > -ε; compare the Hitt. forms ending in -*anzi*), so that it is probable that one has here the same phenomenon as everywhere else. For the rest, all the objections stated in the text apply to this explanation.

tion of the present by -av-, Schwyzer, p. 700; cf. Chantraine, *Gr. Hom.*, p. 394.¹¹² The same is found in ἔτεκον, ἔπετον (Lesb., Dor.), ἐγενόμην beside the reduplicated presents τίκτω πίπτω γίγνομαι. (Incidentally, ἐγενόμην could also be explained from *ǵh₁-o-. Skt. *ajananta* will be an innovation.) Θενεῖν calls for a somewhat more detailed study. This form is explained from a root-aorist *é-g^hen-t é-g^hhn-ent. However, it may be remarked that the zero grade of this root would have given an aorist *ἔφνον (or *ἔφανον, cf. ἔκτανον, which in any case is built on zero grade; see Frisk s.v. κτείνω), so that it would be understandable that this form was abandoned, because the connection with θείνω became unclear. It might be supposed that the form θείνας is a creation of the epic, if one compares Y 481 ὁ δὲ φασγάνῳ αὐχένα θείνας with the two other places where forms of this aorist are found: Π 339 φάσγανον ἐρραίσθη· ὁ δ' ὕπ' οὐατος αὐχένα θείνε and Φ 491 ἔθεινε παρ' οὐατα. It might be that Y 481 is based on a verse like Π 339, of which the imperfect was interpreted as aorist. However, both Π 339 and Φ 491 must be aorists. But there is no reason to assume that ἔθεινα is based on θενεῖν, as Schwyzer (p. 755) seems to think; ἔθεινα can as easily be explained as a new formation on the pattern κτείνω : ἔκτεινα. Ἔπεφνον (Il.) is without a doubt an old aorist, having regard to the similarity to Skt. *jaghnant* etc. A trace of the athematic aorist has perhaps been preserved in ἐπέφατο (cod. ἀπ-)· ἀπέθανεν Hsch. It is conceivable that PIE possessed in addition a second aorist without reduplication, but the only form that could point to this is the ἀπέφατο just mentioned, if this goes back to *-é-g^hh₂-to; the evident advantage of this interpretation is that the α of the manuscript does not need to be changed. But if the form *ἔθενον is old, one would expect this entirely isolated form (with full grade) in the oldest Greek, but it does not occur until Euripides and Aristophanes. A system θείνω — *ἔθενον stands entirely alone in Greek (compare κτείνω ἔκτανον);¹¹³ it can therefore not be seen after what pattern the aorist in Greek could have been formed (as for instance Frisk assumes). It could only be assumed that the form *ἔθανον to be expected (with θ from θείνω for *ἔφανον) was replaced by ἔθενον to prevent homonymy with ἔθανον 'I died' (*ἔθανον would mean 'I killed'). Two further things attract the attention: the indicative of the aorist does not occur and the forms are often accentuated θένειν θένων. Taken all together this suggests that we are concerned here with old present forms (perhaps derived from the old conjunctive *g^hen-e/o- from *g^hhén-ti g^hhn-énti; cf. also Lith. *genù*, OCS *zenŕ* beside Lith. *geniù* and (from the zero grade) OCS *zbnjŕ*, and Skt. *hanati*). ὦφελον are derived from full and zero grade of an athematic aorist (an opinion shared by Frisk s.v. ὀφείλω). The present ὀφλισκάνω will have been built on the aorist ὦφλον (as assumed by Szemerényi, *Syncope*, p. 202,⁷ as against Schwyzer, p. 746). The forms ὀφειλήσω, -ησα, -ηκα (Att.) are clearly built on the present. See for this now Ruijgh, *Etudes*, p. 68: one can also assume for Myc. -operosi a present *ὀφέλω, "don't le

¹¹² It is possible that ἔχθ- goes back to a zero grade if the root began with laryngeal: both *h₁eC- and *h₁C- give Gr. ἔC-.

¹¹³ True, one has ὀφείλω ὦφελον, but Attic has precisely the aorist ὦφλον here; v. *infra*.

prétérit ὄφελον s'est conservé plus tard dans l'expression du vœu irréalisable"; and note 97: "au point de vue syntaxique cette forme fonctionne toujours comme un imparfait (ὄφελον = ὄφελλον chez Homère; cf. χρῆν, ἔδει)". The form ἐλεῖν finally is entirely isolated in Greek.

It therefore seems justified to conclude that all thematic aorists in Greek are derived from a zero grade. The few forms with *e*-vocalism are old imperfects.

Indian has a number of thematic aorists which have a full grade stem, of the *akarat* type. This seems to suggest that the theoretically expected possibility of thematization of the singular stem was in fact realized, so that allowance must also be made for this possibility for Greek. I am not convinced that this is correct. It seems to me that here in Indian we are concerned with more recent thematizations (cf. Kuiper, *Nasalpr.*, p. 77). For instance, it is clear that *akaram akarat* developed from athematic *akaram akar* (with the ending zero from PIE *-t*: **é-k^her-t*), i.e. in historical time. However, an essential feature here is the difference between Greek and Indian. In the latter language 1 sg., for instance *a-kar-a(m) < -ṇi* (with secondary *m*), could be interpreted as thematic form, but the situation is different in Greek. The old athematic aorist to which ἔκλυον, Skt. *sfuvam* go back, had in the singular **é-kleu-ṇi é-kleu-t*, from which Skt. *ásravam ásrot* developed. But in Greek these forms gave *ἐκλεφα *ἐκλευ[τ], forms attracted towards the (Greek) sigmatic aorist. It is assumed (Schwyzer, p. 744; Lejeune, *Traite*, p. 80, n. 4), that ἔχευα ἔσσευα and ἔκηα¹¹⁴ (Il.) are representatives of this type. The zero grade is also found in the athematic medium χύτο, ἔσσυτο (Act. still σύθι· ἔργε Hsch.). The forms ἐχεύατο and σεύατο are secondary; ἠλεύατο therefore presupposes a form *ἦλευα (see Chantraine, *Gr. Hom.*, p. 385). It thus seems that in Greek the zero grade became a thematic aorist, but the full grade a ('pseudo')-sigmatic aorist (with 'thematic vowel' α), so that therefore a thematic aorist with full grade would be out of the question in Greek. (But see n. 111.)

(b) According to Meillet, *Intr.*⁸, p. 200, the athematic aorist of disyllabic roots did not have the stem form sg. *TeRH-* (pl. *TRH-*), but sg. *TReH-*. In Greek one still finds (Schwyzer, p. 742, γ 1):

ἐτλην
 ἔδρᾱν
 πλῆ(ν)το (**pleh₂-*)
 ἔβλητο
 πλῆτο (**pleh₁-*; Skt. *áprāt*)
 ἀπέσκη (Ar.; innovation after the intransitive aorist ?)
 ἀπ-ή-φρᾱ (?)
 κατέβρω h.Ap. 127
 ἔβλω· ἐφάνη, ὄχετο, ἔστη Hsch.
 ἐξέτρω· ἐξεβλάβη, ἐξεκόπη ἢ κύησις EM.

¹¹⁴ The explanation of the η is uncertain. The disputed form ἦνεκα is not considered here. The α-forms of εἶπον seem recent.

The last three forms are considered recent. The medial forms may of course go back to zero grade. Further, reference may be made to:

the aorist of **g^heiĥ₃-* 'to live', **é-g^hiēĥ₃-* in ἐβίων;

the aorist of **bheĥ₂-* 'to be' (Skt. *bhavīti*), **bh₂ēĥ₂-* in Lat. *-bam -bas -bat* etc. (Sommer, p. 514,521; Leumann, *Lat. Gr.*, p. 327; WH, I, pp. 557f.), pl. **bhuĥ₂-*, generalized in ἔφθον, Skt. *ābhūt*.

The Greek material is therefore very scarce here. On the other hand, there is not the slightest indication of the existence of aorists with *TeRH-* in the singular. In Indian, too, there is no clear indication of the existence of this type. I know of only one form that might suggest the type in question, Arm. *eker* < **é-g^herĥ₂-et*, cf. p. 234 s.v. βιβρώσκω.

Note. On the other hand, the aorist of the type ἐκέρασα < **é-kerĥ₂-s-* seems to me an old formation that is not based on another aorist type and goes back to the proto-language. A striking feature here is that the lengthening of the stem vowel normal with the *s*-aorist is absent. In Sanskrit, too, the *iṣ*-aorist as a rule has the full grade (without lengthening): *abodhiṣam*, also in the medium, *akramiṣam akramiṣi*. This suggests that this type is old.

The type *TReH-s-* (Brugmann, *Grundr.*, II², 3, p. 418f.) seems to be wholly a secondary development of the individual languages, as Schwyzler (p. 755 β and γ) believes it is for Greek. Cf. further ἔστρωσα : ἐστόρεσα, ἔζησα/ἔζωσα : ἐβίων. The Indian forms will have to be regarded in the same way, ἔγνων : *ājñāsam*, πλῆτο *āprāt* : *āprāsam*, ἔδρυν : con. *drāsāt*.

(c) It is known that the proto-language did not have an ablaut form *TRReH-* of roots of the type *TReRH-* (there is no trace of **dh₂unēĥ₂-* beside **dh₂unēĥ₂-*). It is therefore understandable that here the root aorist too had the form *TReRH-*, which would explain the form *ád₂hvanīt*, if we are concerned here with an athematic and not with an *s*-aorist. For an *s*-aorist of these stems cf. κρεμάσαι. If one must therefore start here from an athematic aorist **é-dh₂unēĥ₂-t édh₂unēĥ₂-(e)nt*, it is striking that nevertheless Greek has here ἔθανον, derived from the zero grade, not **éθ₂enon* from the full grade.

If these three points are considered it therefore proves that only very few thematic aorists in Greek could be built on an old full grade (θενεῖν ὀφελεῖν ἐλεῖν); that perhaps this is not to be expected in Greek either (they would have become pseudo-sigmatic aorists of the type ἔχενα); that an athematic aorist of disyllabic roots with a full grade *TeRH-* cannot be pointed to for certain; and that, of the aorist which did have the stem form **dh₂unēĥ₂-* in the singular, Greek nevertheless used the zero grade as starting-point for the thematic aorist (**dh₂unēĥ₂-* in ἔθανον). It is therefore most likely that the aorists ἔτεμον and ἔζελον are also derived from a zero grade.

See App. III.

6. *TeRĥ₁*, *T_eRĥ₁* (*T_eRĥ₃*)

The exact agreement between γενέτωρ (Hdt.), Skt. ¹*janitár-*, Lat. *genitor* and Skt.

janitrī Lat. *genetrix*, for which Greek has γενέτειρα (Pi.) with full grade of the suffix (incorrect in Schwyzler, p. 381, quoted by Frisk), points to PIE **ǵenh₁-tor- ǵenh₁-tr-iĥ₂* (cf. ἐνατηρ; Lat. *ianitrices* thus probably has the *i* from **ianater-* > **ianeter-* > **ianiter-*, parallel to *genitor*; only after that was *-ter* replaced by *-trix*; Leumann, *Lat. Gr.*, p. 365). It is improbable that the second ε in γενέτωρ-τήρ-τειρα is analogic (to what?), since the word would certainly have preserved an original α beside θυγάτηρ ἐνατηρ (πατήρ), if it had not obtained one analogically. The possibility of PIE *e* is excluded by the comparison with the other languages.

However, the stem γενε- seems to have spread secondarily in Greek and may have displaced other forms; further only γνη- occurs, discussed on p. 000f.; γενη- is clearly secondary. Besides γενέσθην (Il.), γενετή (Ω 535 σ 6 ἐκ γενετῆς, init.) Homer has only γένεσις (Ξ 201 = 302.246). However, the zero grade predominates in this type, so that one would expect **γνη-σις*. The form γνήσιος (Λ 102 ξ 202) does not, however, point to the existence of such a form, since it is derived from a form ending in -τος (Schwyzler, p. 466). If γένεσις is old, its full grade as against the zero grade in the other forms could point to old paradigmatic ablaut. But Greek does not have other full grade forms. One further finds beside δμήσις (Il.) δάμασις Sch. Pi. O.13.98 and beside κλήσις (ἐπί- Il.) κάλεσις D.H. 4.18 (to explain Lat. *classis*!); ἔμεσις Hp. will be a word created by physicians (for the **(f)μησις* < **μῆḥ₁ti-* to be expected?). In this way ἄροσις (I 580 ι 134) will also be a recent Greek form and will not go back to **h₂erh₃ti-* (**h₂rḥ₃ti-* would have given **αρωσι-*). The forms ταλασίφρων (Il.) δαμασίφρων (Pi.) occurring in compounds contain, according to Specht, *KZ*, 59 (1932), 31-83, in origin the verbal root in the full grade (although in my opinion his argumentation is not compelling) and therefore do not count as evidence of an old form δάμασις etc. They are therefore thought to stand for **δεμασι-* etc. Thus ταμεσίχρως may very well stand for **τεμεσι-*, on the analogy of (Hom.) τάμνω ἔταμον. It may therefore not be concluded that **τάμεσις* or **τέμεσις* stands beside τμήσις (Arist.). Lat. *gens* forms a separate problem. It is evidently an old word (Naev.). As it cannot go back to **ǵnh₁ti-* (this is found in *nāti-o*) and the assumption of an anīṭ form **ǵñti-* is not justified, one must assume a form **ǵenh₁ti-* (cf. *pars* from **p_ṛh₁tis*). One may therefore envisage here an old paradigm **ǵénh₁tis ǵñh₁téis*, to which γένεσις *gens* — *nāti-o* go back. For the ablaut cf. Schwyzler, p. 505. Cf. also Lith. *žentas* < **ǵenh₁tos* 'son-in-law' and OHG *kind* < **ǵen(h)tom*. On the other hand, *genitus* (as against *nātus*) will be a recent Latin formation. For *germen* < **ǵenh₁men* cf. *palma* < **p_ṛlh₁ma* (for Skt. *janman-* see Introduction, p. 10).

Βέλεμνον (Il.) contains **g^uelh₁-*. According to Specht βλήμα (**g^ul(e)h₁-*) stands for **βελεμα* (< **g^uelh₁-mḥ*); see Schwyzler, p. 523,5.

The interpretation of τέρετρον (Od.) is not entirely certain. In φέρετρον (Plb.), for instance, the second ε does not go back to *h₁* (despite Skt. *bharītram*), but is secondary for φέρτρον (Σ 236; on the other hand φάρετρη (Il.) does seem old; **bh_ṛr-e-tr-*). The appraisal of Lat. *terebra* (**terh₁-s-ro-* or **terh₁-es-ro-*, cf. *cerebrum tenebrae*) is also uncertain. Lat. *tarmes* 'woodworm' points to **t_ṛh₁-m-*; WH s.v. and

tero. OIr. *tarathar*, W. *taradr* 'idem' also suggests **t_erĥ-tro-*; for the reduced grade one may compare φαρέτρη. It is uncertain that πέλεθρον (Hom., πλέθρον Ion. Att.) is derived from **pelĥ₁-* 'to fill'. Δέλετρον (Numen. ap. Ath.) is too recent to be reliable. For τέρετρον both **terĥ₁-* and **t_erĥ₁-* are therefore possible.

*Ανεμος also belongs here, for which Skt. *ániti* suggests disyllabic root, and which corresponds to Lat. *animus* (Osc. *anamúm*), Skt. *ánila-* (it is by no means necessary to follow Frisk and assume dissimilation from **anima-*) and OIr. *animm* < **anamón-*, W. *anadl* < **ĥ₂enĥ₁-tlo-* or **ĥ₂_enĥ₁-tlo-* (cf. Arm. *holm* from **ĥ₂onĥ₁m-*; for the type *ToRĥm-* see p. 195f. s.vv. κάλαμος and κνήμη). Av. *aini-van-* points to vocalic laryngeal, **ĥ₂enĥ₁-*.

It can therefore hardly be doubted that *TeRĥ₁-* became *TeRe-*. However, a more difficult question relates to the development of **rĥ₁*. Here one may expect *ερε*, but *ερε* is also conceivable with influence of the *ĥ₁* on the reduced vowel (**e*). One could compare with this the fact that **mĥ* became *imi* in Indian, instead of *ami*, p. 208. The cases which could give an answer here are few in number and capable of different interpretations: in theory here it is always possible to explain *ερε* by an ablaut form with full grade (*erĥ₁*). On the one hand there is no compelling reason in *ταμεσίχρος* to start from **t_emĥ₁-*, on the other hand OIr. *tarathar* is perhaps not sufficient to guarantee the form **t_erĥ₁-* for τέρετρον.

In view of the general 'sensitivity' of Greek vocalism (and the predominance of forms with *ερε* ?), the development *ερε* seems to me the most probable one.

A parallel with **rĥ₃* is rather difficult to find. The form *οπο* expected from it could be seen in Aeol. *ἔστροποι* (Jo. Gramm.). However, there is no indication that this form (beside *ἔστροπω* Il.) is old. It may be analogic to *ἔστρορεσα*, cf. *ἔστρορεστο* D.C. (and *ἔστρορηται* Greg. Cor.). Moreover, a phase **rĥ₃* in the perfect is incomprehensible.

A form with **rĥ₃* may perhaps be found in *ὄνομα*. If the forms that the PIE word for 'name' displays are compared, they can be divided into three groups (only the forms of importance here are given): 1. Skt. *nāma*, Lat. *nōmen*; 2. Dor. *ἔνομα*, OPr. *emmens*; 3. *ὄνομα*, Arm. *anun* (OIr. *ainm*, OCS *ime*). It seems probable that we are concerned here with the remnants of the ablaut of an old word with suffix *-m(e)n*. The first group points to PIE **nō-*, i.e. **neĥ₃-* (possibly **n_eĥ₃-*); the second must then go back to **enĥ₃-* (cf. for this stem form the definitely old words *τελαμών* and *βέλεμν-ov*, the latter of which may, however, be based on **g^u_elĥ₁mn-* too, v. *infra*). For **neĥ₃-/enĥ₃-* see p. 44 s.v. *ὄμφαλος* and p. 47 s.v. *ὄνυξ*). The words of the last group have a vocalic element before the *n*. There is no indication of a laryngeal; see p. 47. *H₃* is out of the question on account of group 2 (and therefore also *ĥ₂*); there is no positive indication of *ĥ₁* and it would not explain *ὄνομα* (assimilation from **ἔνομα* is, however, conceivable, cf. *ἑρέφω* : *ὄροφος*). These forms postulate a phase **nĥ₃-* (cf. OIr. *talam* < **t_elĥm-* beside *τελαμών*). If this analysis is correct, we therefore have here a case where *ovo* goes back to **nĥ₃*. This would demonstrate the principle of this development.

The interpretation that Cowgill, *Evidence*, p. 156, gives of this word deserves discussion here. He is of the opinion that OIr. *ainm* indicates that the stem of this word did not have a laryngeal, for **ñhm̥* would have given **náim* (the same view is expressed by Hendriksen, *Unters.*, p. 50). Lat. *nōmen* is said to stand for **nōmen* under the influence of the root **ǵnō-*; Skt. *nāman-* represents **nōmen* (according to Brugmann's Law), like Goth. *namō*. The root was therefore **ne/om-*, the declension **nóm̥n̥ ūméns*. In addition ὄνομα is, he believes, based on assimilation from ὄνομα. However, the latter is not important, since he assumes that *no* before labial became *vu*, so that *no* was therefore the starting-point after all. There are objections to this view. The vowel before the *n* in ὄνομα, Arm. *anun* cannot be explained in this way; on p. 152, Cowgill has demonstrated that the word cannot have had a laryngeal. Nor can the words that suggest **en-* (our group 2) be explained. True, a basis **en-em-* can be postulated, but its historical forms can only have been **enm-* or **nem-*; Dor. ἔνομα would, however, have to go back to **enom-*. Finally, one also finds the long *ō* in Germanic, OFr. *nōmia*, MHG *be-nuomen*. According to Ernout-Meillet s.v. *nōmen*, Arm. *anun* also points to long *o*; Hitt. *la-a-ma-an* is uncertain. The predominance of *-mn-* in the oblique cases also seems to me to argue against Cowgill's paradigm, Hitt. *lamnas*, Ved. *nāmnā*, Goth. *namna*, OPr. *emn-* (< **enmn-*, as against nom. *emmen-* < **enmen-*),¹¹⁵ Umbr. *nomner*. Our reconstruction **ñh̥₃-mn-* eliminates Hendriksen's objection. A serious difficulty for our reconstruction is, however, presented by the Germanic forms with *ō*, Goth. *namo* and *namnjan* (ὄνομαίνω, Hitt. *lamnija-*, of which the length is not known). The form would have to rest on secondary ablaut (*ō/ō*), on shortening in *nōmn-* > *nōmn-* or on disappearance of the laryngeal, **noh̥₃mon-* > **nōmon-*. The declension can no longer be reconstructed; it might be imagined as follows: **ñh̥₃-mēn* (*-mōn*) **en̥h̥₃/mēn-ŋi* **ñh̥₃-mn-ós*.¹¹⁶ For declension with three ablaut phases of the stem cf. p. 195 s.v. κάλαμος.

If this interpretation is correct insofar as it concerns the form ὄνομα, this is of exceptional importance for the whole theory as given here. If **ñh̥₃* became *ovo*, this makes colouring of the reduction vowel by the laryngeal certain for the whole group **RH*. For in that case colouring by the laryngeal is also highly plausible in the development of **RH-V* for the vowel that develops before the sonant and a fortiori for the vowel that arises after the sonant in **RH-C*.

However, a form with *o*-vocalism is also conceivable, **on̥h̥₃-mn-*, cf. **kolh̥₂m-* etc., OCS *plamy* 'flame' < **polmen* (Buning, *Ath. Conj.*, p. 30). See Add.

¹¹⁵ Szemerényi, *Syncope* (p. 110 and p. 244f.), follows Cowgill and does not accept the stem form *en-*. In its place, however, he assumes that *emmens*, "an orthographic or linguistic deviation within Old Prussian history", stands for **immens* < **ñmen-*. But that leaves Dor. ἔνομα unexplained, for which he assumes a prothetic vowel *ε* (beside *o* in ὄνομα). As the latter is unacceptable, there is also no reason to doubt the old Prussian form. Hamp, *Evidence*, p. 138, gives as the basic form for *emmens* **h̥₁ymnes*, of which the *h̥₁* is supposed to explain the *e*. This implies that the laryngeals were separately preserved down to Old Prussian, which ought to be demonstrated.

¹¹⁶ Vaillant, *Gramm. comp. d. langues slaves*, II, 1 (1958), pp. 205 and 211f., proceeds from **nōm̥n̥ ūmnos*. The same objections apply to this as to Cowgill's view.

7. FULL GRADE *TeRh₃*

The last problem is the full grade *TeRh₃*. Here one would expect in Greek a development *TeRo*, which, however, is difficult to demonstrate. In the sigmatic aorist, where one expects this form, one finds *σπορέσαι*, *κορέσαι* and *λοέσαι*, which will be discussed in the following section. The *o* < *h₃* is found only in *ἀρόσαι*, *ὀμόσαι*, *ὀνοσάμην* and perhaps *ἐνοσίχθων*. First some remarks on these forms.

ἀρόω (Od.), *ἀρόσαι* (Hes.), *ἀρηρομένη* (Il.); *ἄρουρα* (Il.) Myc. *aroura*; *ἄροτρον* (Il.). Disyllabic root is confirmed by Lith. *ariù árti*, *árklas*, so that one may assume **h₂erh₃-*. *Ἄροτρον* will be a continuation of **h₂erh₃-tro-m*. *Ἄρουρα* may go back to **ἄρο-ῥαρ* < **h₂erh₃-ur*, but in view of *ἄλευρον* (p. 234) **h₂reh₃-ur-* is also conceivable.

ὀμόσαι has a stem **h₃emh₃-*, see pp. 119, 131 and 234.

ὀνομαί, *ὀνόσσεται*, *ὀνοσάμην* (Il.) points to *ὀνο-* < **h₃enĥ₃-*. But the zero grade that one expects in the medium, **h₃h₃-*, would have given **ὀνω-*. In that case one must assume **h₃enĥ₃-* > *ὀνω-*, but then **nĥ₃-* is also possible (**h₃-* gives **νω-*). In the latter case it may be connected with *ὄνομα*, see p. 229f. Lat. *nōta* could also be linked with it as **nĥ₃-e/o-ta* (**h₃h₃-e/o-* would have become **anota*).

ἐνοσίχθων may contain a stem *ἐνο-* < **(h₁)enĥ₃-* (see Frisk), but there is no confirmatory evidence. Cf. moreover Myc. *enesidaone* (dat. sg.), *Docs.*, p. 109.

Scarce as this material is, it nevertheless clearly indicates that (C)*eRh₃* became (C)*εRo*.

a. *κορέσαι*, *λοέσαι*; *σπόρνυμι*.

Three verbs present the special difficulty of *o*-vocalism in the sigmatic aorist. The most important forms of these verbs follow.

κορέσαι (Il.) was the starting-point of all other forms of this verb, *κορεσθήναι* (Od.), *κορέω*, *κεκόρημαι* (Σ 287 Od.) *κεκορήότε* (σ 372). All presents (*κορέννυμι* Them. etc.) are recent. Lith. *šerti* 'to feed' confirms disyllabic root and shows the *e*-vocalism.

λο(φ)έσαι is probably the basic form for *λοῦσαι* (Il. 10 times, Od. 19 times) *λούω* (Il. twice, Od. once); see Frisk. For further interpretation see below.

σπόρνυμι (Hdt., S.; *καστορνῦσα* p 32), *ἐστώρεσα* (Il.), *ἔστροτο* (K 155). *Στροτός* (Hes.), Lat. *strātus*, Skt. *stīrṇá-* point to **sterh₃-*, as does Skt. *sva-stara-* (< **-storho-*). Lat. *sterno*, OIr. *sernaim* — whatever the exact origin of these forms may be — point to the existence of forms with *e*-vocalism.

Whilst the aorist offers a problem here, the original form of the present is no less difficult to track down. Comparing *σπόρνυμι* with *ῥορνυμι*, for which Skt. *ámīti* points to an old present **h₃emh₃-mi* > **ῥομομι*, one arrives at sg. **sterh₃-(mi)* > **στερο-*, pl. **stĥ₃-(mes)* > **στρο-*, **stĥ₃-(ent)* > **στορ-*. Assuming that this reconstruction is correct, it must be doubted whether the 3 pl. *στορ-* was the starting-point for the present *σπόρνυμι* (and thus for *ἐστώρεσα*?). On the other hand, a nasal present is widespread; Ved. *stīrṇóti* (RV once), Av. *stərənaoiti* point to **stĥ₃-n-eu-mi*,

OIr. *sernaim* more to **stṛ-n-eh₃-mi*, but Ved. *stṛṇāti* may be secondary for *stṛṇōti*. Lat. *sterno* also suggests a nasal present. Since beside the stem **str-eh₃-* the form **str-eu-* emerges from Goth. *straujan* and Lat. *struo*, it is obvious to start from **stṛ-n-eu-mi-*. The original development of **stṛ-* in Latin (**stor-*) and Old Irish (**sri-*) has been replaced by another ablaut form. In Greek one would expect **σταρ-*. If this reconstruction is correct, the *o*-vocalism must come from elsewhere. This development has a parallel in θόρνυμαι (Hdt., [S.] *Fr.* 1127,9), besides which the old form is found in θάρνυσθαι = κυῖσκεσθαι Hsch. It is evident from θαρνεύει· ὀχεύει, σπείρει, φυτεύει Hsch. that an old present ending in *-n-éu-mi -n-u-més* forms the basis here. The *o*-vocalism here is doubtless due to θορεῖν. Entirely comparable is the replacement in πέρνημι (after περάσαι; the original **pṛ-n-* in Aeol. πορνάμεν(αι)) and τέμνω (after ἔτεμον for τάμνω, p. 221ff). This would mean that the *o*-vocalism in the aorist is older than in the present. However, there is no indication of a thematic aorist **ἔστορον*, nor is it probable that this form would have been transformed into ἐστόρεσα (since there is no parallel for such a transformation). One should therefore probably start from a stage **σταρνυμι ἐστόρεσα*. The important place of the aorist is also evident from the forms in Homer: present only in καστορνύσα p 32, ppf. ἔστρωτο K 155, further 21 aorist forms. True, this aorist only occurs in the more recent parts (I 4 times, Ω 3 times, Od.), but the fact that this type of aorist is old is evident from ἐκορέσσατο, which appears not only in the Odyssey but also at several places in the Iliad (ANTX), and notably from (the only active form in) Π 747 πολλοὺς ἄν κορέσειεν ἄνῃρ ὃδε τήθεα διφῶν. It can hardly be demonstrated that this last verb had a disyllabic root ending in *h₃* (**κρωτος* in κρωτάνεροι· βάνανσοι πολῖται, καὶ ἐξελευθεριῶται Hsch. ?), but, having regard to the parallelism with ἐστόρεσα, this is probable. Secondary influence of κορεσα- on the aorist of στόρνυμι is neither semantically nor formally plausible (the verbs do not have a single parallel form in Homer).

The form that one expects here in the sigmatic aorist is **στερόσαι* < **sterh₃-s-*. The existence of this type seems to be confirmed by Myc. *rewotorokowo* ('*lewotrokhowos*') and *rewoterejo* ('*lewotreios*') beside λοετροχός (Σ 346 Od.), which supposes an original form **λεφοσαι* for λο(φ)έσαι λοῦσαι. This therefore suggests a Greek metathesis λεφο- > λοφε-. However, this does not explain general *o*-vocalism in the other languages; see for these forms Cowgill, p. 159, for Arm. *loganam* also *Evidence*, p. 108. The problem becomes even more difficult if Hitt. *lahḫuwai-* 'to pour' belongs here; Winter (*Evidence*, p. 108) consequently states that it does not (*lahḫuw-* < **leh₂u-*). And yet an exclusively Mycenaean metathesis *loye-* > *lewo-* is not very probable, since in that case this form would have entirely disappeared again. One could now assume parallel to this a metathesis στερο- > στορε-. That would also explain why ὀμο- ὀνο- remained unchanged (a development στερο- > στορο- > στορε- is therefore improbable). Ruipérez, *Emerita*, 18 (1950), 386-407, assumes that the metathesis occurred in the future, where **στερώ* was replaced by στορέω (κορέει(ς) Θ 379 N 831 P 241), since in his opinion the category -όω did not yet

exist then. However, in general there proves to be practically nothing of influence of the future on the aorist.

Moreover, the form *ἔστερῶσα < *é-sterh₃-s-ŋi corresponds fully to Skt. *ástariṣam*. This is usually regarded as secondary, in my opinion without reason. With a recent form one would be more inclined to expect **astāriṣam*, like *asāniṣam*, but here one has the old form, cf. p. 227 f.

Summarizing, one may therefore say the following about these three verbs. As secondary influence is improbable, the parallel forms will point to the same old category. The forms of στόρνυμι and κορέννυμι with their cognates point to a disyllabic root; for the former στρωτός suggests h₃. The o-vocalism in the stem of these three verbs therefore seems ultimately caused by this h₃. In the present it has been introduced on the analogy of the aorist, as the parallel θόρ-/θάρ-νυμι (ἔθορον θρω-) suggests. In the aorist one finds ToRe, whereas one would expect TeRo. This seems to point to metathesis, the more so as the old form appears to be found in Myc. 'lewo-'.

8. MATERIAL OF THE DISYLLABIC ROOTS WITH h₃ AND h₁

Now that the Greek developments have been established, a survey follows of the material, with some remarks on the genesis of the separate forms, insofar as of importance here.

a. Disyllabic Roots with h₃

θρώσκω, θοροῦμαι, θορεῖν (Il.). The nasal present θάρνυσθαι· ὀχεύειν Hsch., from which is derived θαρνεύει· ὀχεύει, σπείρει, φυτεύει Hsch., seems old; θόρνυμαι (Hdt., [S.] Fr. 1127,9) may have its vocalism from θορεῖν. The form τεθρᾶσθαι· ὀχεῦσθαι Hsch. presents serious difficulties. I can explain it only as analogic formation on the basis of θάρνυσθαι : τεθρᾶσθαι = θόρνυσθαι : *τεθρᾶσθαι, cf. στόρνυμι ἔστρωται. Relationship with θρέομαι 'to cry aloud' (A., ἄλλο-θρόος Od.) (Frisk) should be rejected on semantic grounds. Θόρυβος therefore also remains outside this.

βλώσκω (κατα-, προ- Od.), μολοῦμαι, μολεῖν, μέμβλωκα (Il.). The connection with Serb. *iz-mōliti* 'to show', Slov. *molíti* 'to reach, pass', is not semantically compelling. However, if this points to a present stem **mol*(h₃)-, it could be used to explain μολεῖν, see p. 217.

πορεῖν, πέπρωται (Il.); πρωτός see p. 211. Cognate with this is Skt. *pūrtá-* 'reward' and Lat. *pars* < **perh₃ti-*.

τιτρώσκω (Hp.) τρώ(φ)ω φ 293, τρώσομαι ἔτορε Δ 236, ἔτρωσα; τρωτός (Il.). A more recent aorist is also (ἀντ-)ετόρησα (Il., Chantraine, *Gr. Hom.*, pp. 391, 416). Cf. also τέτορεν· ἔτρωσεν and τετόρη· τρώση Hsch. See Add.

βιβρώσκω (Babr.), ἔβρων (h.Ap. 122), βέβρωκα (Il., βεβρώθοις Δ 35); βρώσις (Il.); βρωτός (E., X.) agrees with Lith. *girtas* 'drunk', Skt. *gīrṇá-* 'swallowed'. The

laryngeal is further evidenced by *aja-gará-* 'goat-swallowing' (Av. *aspō-gara-* 'devouring horses', Lat. *carni-vorus*) < **-g^horho-*, cf. θυμο- δημο-βόρος (Il.). Arm. *eker* < **-é-g^her(h)-et*, Lith. *geriù gérti* 'drink' display the *e*-vocalism. The connection with βάραθρον must be abandoned, since there is no trace here of the expected *o*-vocalism. That with δέρη (Frisk) has nothing to support it.

ὄμνυμι, ὁμοῦμαι, ὁμοσα (Il.), ὁμώσονται (A.), ὁμώμοκα (E.). The root ὁμο- (ὁμόςσαι, ἄν-ωμο-τί Hdt.) is the same as that in Skt. *ámī-ti*, PIE **h₃emh₃-*. The Greek present is of course an innovation. One could consider starting from **émh₃-ti* **h₃emh₃-més* **h₃emh₃-énti*, Gr. *ἐμοσι *μωμές *ὁμόντι and explaining the stem ὁμ- by the 3 pl. However, this does not seem an adequate starting-point for the *o*-colouring of all forms. In itself the aorist presupposes **h₃emh₃-s-*. Ὁωμο- may also point to *h₃*- see p. 119. In Sanskrit the zero grade of the plural has been eliminated. Here may also belong ὁμοίος for *ὁμο-φ-ιος, see Frisk s.vv.; there is no ground for his scepticism.

For κορέννυμι, στόρνυμι, λούω and ἄρώω, ὄνομαι see p. 231f.

b. Disyllabic Roots with *h₁*

ἐρέσσω (Il.), Att. ἐρέττω is denominative; ἐρέτης (Il.), Myc. *ereta*; *ἐρετηρ in Ἐρέτρια corresponds to Skt. *arítár-*. Beside this root form stands the full grade II **(h₁)reh₁-* in Lat. *rēmus* (the derivation from **rē-smos* is improbable, since Lat. **rē-* cannot be an ablaut form of this root). Lith. *iriù irti* represents the zero grade (which in Greek would be **(h₁)rh₁-* > ἐρη-, not ἐρε- as Frisk suggests, I, p. 553; this ἐρη- is perhaps found in Lesb. τέρρητον if from *τρι-ερη-τον, Schwyzler, p. 274).

ἐμέω (Il.), ἐμέσσα (Ξ 437), ἐμήμεκα (Hp.); Skt. *vāmiti*, Lith. *vėmti* confirm the disyllabic root. In Homer O 11 αἶμ' ἐμέων and Ξ 437 αἶμ' ἀπέμεσσαν (for αἶμα φέμεσσαν ?) have no trace of φ. Skt. verbal adjective *vāntá-* < **μηh₁tó-*. In Greek *(φ)μητός would conform to this, so that ἔμεσις is probably secondary (p. 228). For ἔμετος (Hdt.) one could compare κάματος (i.e. **μηh₁tos*), but here an analogic formation is more probable.

ἀλέσσαι, ἀλετρίς ἀλετρεύω (Od.), Myc. *aretere* points to disyllabic root **h₂elh₁-*. Od. ἀλείατα (v 108) is graphic for *ἀλήατα from *ἀλη-φαρ; to this Arm. *aliwr* corresponds, like *albiwr* beside φρείατα (Φ 197; from *φρηαρ). The latter thus points to PIE **bhrē-ur*. In the same way one must therefore start for *aliwr* ἀλείατα from **h₂leh₁-ur* (not from **αλε-φαρ* as Frisk believes). The thematized form occurs in ἄλευρον (Ion.-Att.; from *ἀληφρον). Av. *aša-* < **arta-* may represent **h₂lh₁-to-* (this would be Gr. ἄλη-, but the forms with ἄλη- are probably secondary, v. Frisk s.v. ἄλέω).

ἀρέσαι (Il.) beside ἀρετή points to **h₂erh₁-*. The forms ἀρείων ἄριστος are not entirely clear. Ἀρείων is evidently secondary as against Myc. *aroza* 'arjoha' (for ἀρείων see Seiler, *Steigerungsformen*, p. 116 ff.). If they are derived from this stem, *arjos-* must go back to **h₂erh₁-ios-* (**h₂rh₁-ios-* would have given *ἀρηιος); cf. μέζων < **megh₂-(ios)-*. Ἄριστος is probably not based on **h₂rh₁-istos* (> *ἀρεh₁-

ιστος ?). Ἀραρίσκω, aor. ἄρσαι, has no disyllabic root and therefore can only be very distantly cognate.

τάμνω (Il.; τέμνω γ 175, Hdt.; not cognate is τέμει N 707, see p. 223), τεμῶ (E.), τάμον (Il.), ἔτεμον (Att.); τέτμηκα Arist., τετμημένος, ρ 195. Τμήγω (Nic.; ἀπο- Il.), τμήξας (Il.); -έτμαγον (δι- η 276), τμάγεν (Il.). The original system was τάμνω (for *ταμνημι) — ἔτεμον (< *é-*tḡh*₁-om), see p. 221 ff., where the dialect forms and the derivatives are also dealt with.

βάλλω, ἔβαλον (Il.) beside Arc. -δέλλω (ἐσ-, ἐκ-), ζέλλω (EM), ἔζελον goes back to βάλλω (for *βαλνημι) — *ἔδελον (< *é-*g^uh*₁-om). Βλήτο βέβληκα (παρα-) βλήδην are probably all based on zero grade, like βλητός (Hp., see p. 219). For βέλεμνον see p. 228; for βέλος from **g^uelh*₁-os cf. γένος, p. 180.

πίμπλημι (for the μ Schwyzler, p. 689) of the root **pelh*₁-/pleh₁-, of which the zero grade is found in Skt. *pūrṇá*- etc., see p. 219. Full grade I may be found in Skt. *parīṇas*, *pārīman*- 'fullness'. Skt. *pūryáte* is based on **pḷh*₁-je-. Hom. πλήτο probably has zero grade, as against full grade in Skt. *á-prát*. For Skt. *pṛṇāti* see p. 252. The present system seems the most difficult one. As Skt. *pīpṛmáh* can be explained (p. 245), sg. *pīparmi* may be analogic. Conversely, πίμπλαμεν will have been derived on the analogy of ἴστημι ἴσταμεν from πίμπλημι, *ibid*. The most self-evident is therefore PIE **pi-pleh*₁-mi **pi-plh*₁-més, rather than Specht's **pi-pelh*₁-mi (KZ, 59.106).

γίγνομαι (p. 243), γενέσθαι (p. 225), γέγονα γέγαμεν (p. 244); γενέθλη, γενετή, γένεσις (p. 228), γνήσιος κασίγνητος (p. 219f.) all Il. The laryngeal is lost in γένος (p. 180) and γόνος, Skt. *jána*- < **ḡonh*_o-.

καλέω, καλέσαι, κέκλημαι, κεκλήσομαι Il.; κλητός (I 165 ρ 386; πολύ- Δ 438 K 420; τηλέ- (also -κλειτος Il.), κλήδην (I 11, ἔξονομα- X 415 Od.), κλησις (ἐπί- Il.). The forms with κλη- can hardly all be regarded as secondary; there is no example for καλε-/κλη-, while analogy would be more likely to operate in the direction of καλε-/καλη- (cf. γενη-, beside γενε-/γνη-), as indeed in καλήτωρ (Ω 577, cf. O 419 N 541), Καλήσιος Z 18. This interchange must therefore probably be regarded as old ablaut. Καλέω may be based on the aorist, but here one would expect full grade (with *e*-vocalism, *ἐ-κελε-σα). Nor can the α be explained by a nasal present **k_l-n-eh*₁-mi > *καλνημι, while there is no indication of this formation either (*κάλλω, cf. βάλλω). Nor does Greek have any old nouns with καλε-. Connection with κέλομαι (as conjunctive present **kelh*₁-o-) is semantically disputable; Frisk connects it with κέλλω (Od.) 'to run a ship aground', which is no less dubious from the semantic point of view. I can explain the form καλέω only by a present **k_lleh*₁-mi > *καλημι; see for this *infra* s.v. ἄνυμι (and cf. Umbr. *kařetu* < **kalētōd*).

γαμέω, ἔγημε (Il.) may be based on the same formation as καλέω; here, however, not a single other ablaut form is known. (Frisk's "ἔγημα eine einsilbige Reduktionsstufe" is characteristic of his unclear idea of the PIE ablaut; the form is most simply explained as an analogic formation from the stem γαμ-, cf. σφαλ- ἔσφηλα). The interpretation of γαμβρός is entirely uncertain, see Frisk. Skt. *jārā*- 'suitor, lover', is probably a loan word, see Mayrhofer s.v.

ὄλλυμι, ὀλοῦμαι, ὀλέσαι ὀλέσθαι, ὄλωλα (II.); ὀλέκω; ὀλεθρος, ὀλετήρ (II.), ὀλεσίκαρπος (λ 510) suggests a disyllabic root **h₃elh₁-*. The present may be a Greek innovation, cf. ὀμνυμι. Hitt. *hullai-* may perhaps be cognate (Couvreur, *Ant. Class.*, 12 (1943), 108). For ὠλεμέες see p. 110.

ἄνυμι (ε 243) ἀνύω (Att. ἀνύω); ἄνω < **ānw* (K 251 Σ 473 (?) γ 496); ἦνυσα 'to effect, accomplish, win' belongs with Skt. *sanóti* 'to win'. Disyllabic root is demonstrated by *asāniṣam*, *sāta-*, and *sīna-* 'supply, provision' (< **s_enḥ-o-*, see p. 208) and Hitt. *sanḥzi* 'to seek, endeavour'. One could connect the aorist ἦνεσα with this (**é-senḥ₁-s-*), but this does not appear until fairly late (Specht, *KZ*, 59.93, Schwyzer, p. 752). Schulze's conjecture (*Quaestiones*, p. 158 f.) of **έννεσιεργούς* for *έντεσιεργούς* (Ω 277) is attractive on account of ε 243 θόως δέ οἱ ἦνυτο ἔργον and Σ 473 καὶ ἔργον ἄνοιτο (fin.; ἄ!), but remains dubious. For the metrical lengthening (of the full grade *ένε-*) *ένν-* see Chantraine, *Gr. Hom.*, p. 100 f. (*έννοσίχθων*, *έννοσίγαιος*, *είννοσίφυλλος* and others). However, it is not clear how *ένν-* was replaced by *έντ-*.

The form of the present calls for a more detailed treatment. Kuiper has shown (*Nasalpr.*, p. 91 ff.) that there is little reason for the assumption of a nasal present from a root ending in *-n* (i.e. the type **sn-n-eu-mi*) and that here one must, as with *bhanákti*, *tanóti*, *tanákti*, start from **t_en-éu-ti* **t_en-ék-ti*.¹¹⁷ In accordance with the type **t_en-ék-ti* is **k_el-éh₁-mi*, καλέω, *supra* (κέλομαι could be the conjunctive present, **kelḥ₁-o-*, of this, as of **t_enékti* **tén-k-ō*, Goth. *þeihan*; *o.l.*, p. 121 f.). For ἄνυμι, *sanóti* the form **s_en-éu-mi* is in that case self-evident. If the *u*-enlargement is not old (**sen-ḥ₁-/sn-eh₁-* beside **sn-eu-*, as with **str-eh₃-* **str-eu-*, **dr-eh₃-* **dr-eu-* **dr-em-* (in Gr. δραπεῖν) etc.), both forms may be analogic for original **s_en-éh₁-mi*; however, this is not important to the root vocalism.

This recalls the type Skt. *irajyáti* beside *ṛnákti*. Bartholomae, *Studien z. idg. Sprachgesch.*, 1890/1, p. 122, started from **ṛr-eḡ-* or **ar-eḡ-*; so did Persson, *Wurzelerw.*, p. 245,1, and Kuiper, *Nasalpr.*, p. 58. The form *ar-*, i.e. *hr-*, however, became *r-*, not *ir-*, in Indian (otherwise Sanskrit would have to have forms with *i-* that correspond to Greek ones with 'prothetic vowel'). The form *rr-*, for which the notation *r* is used here, is confirmed by comparison with the type *tanákti*. However, for *irajyáti* Gr. ὀρέγω points to a laryngeal as first phoneme, **h₃reḡ-*. This leads to the reconstruction **h₃er-eḡ-(mi)* for *iraj-(yáti)*. One therefore has of this root all the forms discussed here together:

<i>*h₃ṛ-n-éḡ-mi</i>	in Skt. <i>ṛnákti</i>
<i>*h₃r-én-ḡ-ō</i>	Lith. <i>ranszies</i> , ON <i>rakkr</i> , MHG <i>rank</i> 'slim'
<i>*h₃er-éḡ-mi</i>	Skt. <i>irajyáti</i>
<i>*h₃r-éḡ-mi</i>	Lat. <i>rego</i> } Gr. ὀρέγω

Iradhanta, Gr. ἐρέθω, may also have had a group *h₃er-*.

That such forms occur with *in-* is demonstrated by *inakṣati* 'endeavours to reach' beside *nakṣati*, *násati*, PIE **h₁enék-/h₁nek-*, Gr. ἐνεγκεῖν, of which the laryngeal can also be demonstrated in another way. Here the correctness of the reconstruction is further confirmed by the fact that the laryngeal explains the *i-* (as in *sīna-* < **s_enho-*, p. 208), since *n-* in Indian would have become *an-*.

¹¹⁷ His spelling *ṛn* is identical with *n*; it designates a group with *n* before which in the separate languages a vowel appears that does not go back to full vowel in the basic language.

On the other hand, Lat. *unguo* cannot therefore have had a laryngeal as first phoneme on account of Skt. *anākti*, not **inākti*.

τρητός. The *e*-vocalism is confirmed by Germanic, OHG *drāen*, OE *bráwan* < Germ. **brē-*. The formation of the aorist τέτρηνα (X 396 Ψ 198), Att. τετράναι is unclear. One is reminded of τρᾶνής, Lith. *trinù trinti*, Latv. *trūts*. In view of the *a*-vocalism these forms probably belong to **ter-h₂-/tr-eh₂-* with another enlargement. For τέρετρον see p. 228f.

σκέλλω (κατα — ομαι A.). Disyllabic root is suggested by σκελετός ('dried up' Pl. Com., 'dried body' Phryn. Com.): σκληρός Hes. etc. The original verbal system is difficult to reconstruct; the aor. ἀποσκληῖναι (only Ar. V. 160; again analogic to this is ἀποσκαίη Hsch.; the latter form gives no basis for *h₂*, cf. LSJ s.v. σκληρός) and the perf. ἔσκληκα (ἐν- Hp.) may be recent. The present σκέλλω from a stem **skelh₁-*, however, suggests in comparison with -δέλλω τέμνω an original **σκάλλω* (not = σκάλλω 'to stir up, hoe' Hdt.) — **ἔσκελον* with analogic σκέλλω. A form **σκάλλω* does in fact presuppose σκήλει(ε) Ψ 191 (Fick **σκείλειτε*; the same idea is given for instance by Curtius, *Verbum*, I, p. 307); this would then go back to **skl-n-eh₁-mi*. Cognate with this περισκελής S. and perhaps also ἀσκελής Hom. (despite Frisk). Bechtel's interpretation (*Lex.*, p. 66) is all the same probably the correct one: with ἀσκελὲς αἰέν (α 68 fin.) and ἀσκελέως αἰέν (T 68) cf. νωλεμές αἰεί (fin.) and νωλεμέως; thus the *ā-* is probably privative. There is no reason to regard ἀσκαλέως· ἄγαν σκληρῶς Hsch. (with *ā-* intensive) as a mistake for ἀσκελέως (Frisk): the *α* may be due to influence of **σκάλλω*. The interpretation of σκελετός beside σκληρός is uncertain. Recent Greek forms are probably σκελεφρός (Hp., -ιφρός Erot.) beside σκληφρός (Pl.). Apart from σκελ-ετός (Schwyzer, p. 502) as against σκελε-τός (*idem*, p. 743,3) it also remains uncertain in the latter case whether this form goes back to **skelh₁-tos*, or, like κάματος, to **skelh₁tos*.

πάλλω has not been interpreted for certain. Only if it is in fact cognate with πελεμίζω and Lat. *pello* is it of importance here. Πελε-μ- (beside Goth. *us-filma*, OIcel. *felms-fullr* 'terrified') may in that case be based on **pelh₁-m-*. Lat. *pello* (with the Old Irish compounds ending in *-ella* < **elnā-*; secondary for *-nē-*?) may go back to **pelnō* (with secondary full grade), so that πάλλω may have developed from **pl-n-eh₁-mi*; see p. 251.

ἐνδελεχής (Pl.) perhaps points to a noun **δέλεχος* 'length'; the relationship with Skt. *dīrgha-*, Av. *darəga-*, Serb. *dūg* (**dǵhgho-*) shows disyllabic root, so that for **δέλεχος* one must possibly start from **delh₁ghos*. Full grade II is found in the Skt. comparative *drāghīyas* etc. A problem is presented here by δολιχός. The *ι* can hardly have developed by dissimilation from *o*, since *o* in Greek is never subject to assimilation or to dissimilation, Schwyzer, p. 255f.; it is conceivable from *α*, but in that case one would also have expected **ἐνδελαχης* (where assimilation is possible), but there is nothing that positively points to *α*; nor is *o-α-o* > *o-ι-o* demonstrable (any more than *o-ε-o* > *o-ι-o*, which is more likely to become *o-o-o*, Schwyzer, *loc. cit.*). Viewed from Greek, one should start from **dolh₁gho-*. A reduced grade

**d₀lh₁gho-* cannot explain the first *o*; only influence of *h₃* could be considered here. The zero grade **d₀lh₁ghos* would have given **δληχος*. Hitt. *daluga-* (*i*-stem) does not offer any elucidation. According to Hendriksen, *Unters.*, p. 59, the *u* is graphic for the velar pronunciation of the *l* before *k* (i.e. *dalga-*), with *lh* > *al*). Seiler, *Steigerungsformen*, p. 101 f., cannot be right in assuming *ολι* < *l*.

δέλεαρ/βληρ 'bait'. The data are: δέλεαρ E., δελεάζω Hdt.; βληρ Alc.; δείλατα Call. *Fr.* 177.17; gen. δελείατος Numen. ap. Ath. 7.305^a; δέλευρα Ath. *loc. cit.* The interchange δ/β confirms that we have here various ablaut forms; it is self-evident to assume that these go back to paradigmatic ablaut. Δέλεαρ and δέλευρα point to a noun ending in -*μl*. The stem forms must have been **g^uelh₁-* > δελε- and **g^ul(e)h₁-* > βλη-. The root is similar to that of βάλλω, and possibly identical with it. Δελείατος may have been formed on the analogy of φρέαρ φρείατος, as also δείλατα. (The connection given by Frisk with βλέτρες 'leeches' is untenable; this is more likely to be non-IE, like βδέλλαι 'idem'.)

ἄημι is based on a root **h₂meh₁-*; for cognate forms see p. 57 f.

φερ(ε)-/φρη-. Beside εἶρω ἐρέω the perfect εἴρηται (Il.; Arg. φερρημένος) points to **me-μ₁h₁-toi*; connected with this are ῥήτός (Φ 445, παραρρητός I 526 -ά N 726), ῥήσις (φ 291); also ῥήτηρ I 443, ῥήτηρ ξ 393. One may therefore assume **μ₁h₁-tos* for ῥήτός. On the other hand, Skt. *vratá-*, Av. *urvāta-* probably stem from **μ₁h₁-eto*; a different view is stated by Thieme, *IJ* 3 (1959) 150.

For ἄνεμος see p. 229.

C. SPECIAL PROBLEMS

1. THE DEVELOPMENT OF *ToRH-C* AND *TRh₃-C*

Now that the development of the various ablaut forms of the disyllabic roots for the three laryngeals has been broadly discussed, a number of problems remain that will be discussed in the following sections.

Viewed from PIE, the question arises of the representation of *ToRH* before consonant, for which, parallel with *TeRH*, one would expect in Greek *ToRe ToRa ToRo*. However, these forms are rare, and consequently it has been thought (the first to do so was De Saussure, *Mél. Nicole*, p. 511) that these forms were represented by *ToR*, that in other words the laryngeal disappeared without trace after *o*-vocalism.

This question is complicated by the fact that in Greek *ToR* also seems to correspond to PIE *T₀R̥* (*TR̥H*). After the above it is clear that this possibility may be considered for *TRh₃* only: for the timbre (of *ToR*) can be explained only by influence of the *h₃*.

One therefore finds in Greek *oR*, which sometimes seems to go back to *oRH* and sometimes to *Rh₃*. Needless to say, a close distinction should be made between these two cases. True, it may be assumed that *Rh₃* became *oRh₃*, and that only afterwards

did this become *oR*, like PIE *oRH* became *oR*, but this would first have to be proved. The cases which are adduced as proof of this development will be discussed separately here. The material comes from Brugmann, *Grundr.*, I², p. 477, Hirt, *Idg. Gr.*, 2, p. 185 f., Meillet, *Diall. i.-e.*, p. 68 f., Schwyzler, p. 363 (Lehmann, *PIEP*, p. 94, merely repeats Schwyzler).

For *oRH* > *oR* the following are cited:

ἀμoργή (Hp.) 'watery part which runs out when olives are pressed'; from ἀμέργω 'to pluck or pull', τὰς ἐλάας 'to squeeze out (juice)' (Frisk). There is no reason to assume a laryngeal here. The connection with Lat. *marceo* 'to wither, droop, shrink' is phonetically difficult (*c* — *γ*) and not semantically compelling.

κόρση does not belong with κέρας, v. Frisk.

μορφή does not belong with Lith. *márgas* 'motley', v. Frisk.

πορθμός (Meillet) 'ferry, place crossed by —, strait' (Od.) belongs with Lat. *portus*, Av. *pərətu-*, which point to aniṭ root (beside περάσαι etc., p. 199 f.).

To connect οἶσος 'withy' (Thphr., Ael. Dion.) with ἰτέα 'willow' (-η Φ 350 κ 510) and, on the strength of the length of the ι (see for this Frisk) and the connection with Skt. *vītá-* (*vyáyati* 'to wind'), to assume a laryngeal, is too hypothetical to be used as an argument. Cf. also ἱτυς (Δ 486 E 724) with ἱ also placed in the same category with the same degree of certainty.

φόρτος (Od.) φορμός (Hes.), beside φέρτρον (Σ 236) φέρμα (A.), comes from the aniṭ root **bher-*; there is insufficient indication of PIE disyllabic root here.

κοῦρος (Il.), Arc. κορφα, Myc. *kowo*, is derived from κορέσαι. Comparable is θοῦρος (Θοῦρις Il.), which is connected by some with θρώσκω. However, here there is the possibility that θάρνυσθαι points to a root variant **dhr-eu-*, so that **θορρος* may go back to **dhor-u-o-*. If both forms are based on an *u*-stem, a zero grade **dh₂h₃-u-* > *θορυ-* could be considered. For κοῦρος the form κόρυξ· νεανίσκος Hsch. might point to this. But in addition one finds κόρυψ and κόριψ (see Frisk, I, p. 921), which might point to non-IE origin for this word.

οὔλος 'woolly'; the comparison with Skt. *úrṇā*, Gr. λῆνος, is not further stated by Frisk. His connection of it with εἰλέω is unverifiable. The word cannot be explained with sufficient certainty.

βροντή. Only -βρεμέτης (ἐρι-, ὕσι- Il.), βρεμεαίνων· ἥχων Hsch. might suggest disyllabic root, but against this is -βρέντᾱς (B 16.66: cf. βρενταί· βρονταί Hsch.). For -βρεμέτης one may compare -ρεφ-έτης, Skt. *sravát-* (Persson, *Beiträge*, p. 2.688).

τόρμος 'hole or socket in which a pin is stuck' (Hdt.; more recent is τόρμα Lyc.); τρητός τέρετρον suggest *h₁*. Τέρμα τέρμων τέρθρον do not belong with this (but rather with **terh₂-*, Skt. *tárati*, *tirāti* < **tṛh-éti*, *tīrná-*, Hitt. *tarḫzi* 'is powerful, can'), which likewise do not have a trace of laryngeal. For this word and the following one see *infra*.

πόρνη (Archil., Ar.) 'prostitute' is perhaps cognate with πέρνημι περάσαι (Aeol. πορνάμεν Hsch.) as 'bought slave' (LSJ) or 'brought over the sea'.

τόλμα Att. is perhaps derived from τολμάω (as suggested by Solmsen, *Beitr.*, I,

p. 266, Boisacq s.v., not *τολμῆα, as stated by Meillet, *op. cit.*, p. 6 ff., Schwyzer, p. 283). Τολμάω itself may have been derived from *τόλμη, which is found in Dor. τόλμᾱ (Pi.) (cf. for instance ὀργάω from ὀργή). This is therefore the oldest form of this group, which has the same stem as τλῆναι etc. (p. 200). The comparison with OHG *hamma* < **konh̥m-a* (p. 196 f. s.v. κνήμη) and OHG *halm* etc. < **kolh̥m-* (p. 195 s.v. κάλαμος) suggests a noun **tolh̥m* **tl̥h̥m-*; cf. ὀργή *infra*.

πότης is the only word in which *h̥* is believed to have disappeared after occlusive. It probably belongs with πίτω (cf. for the meaning Lat. *casus* etc.). This word conjures up many questions. The Homeric system πεσέονται ἔπεσον πεπτεώς (Φ 503 χ 384, both times with synizesis; πεπτηώς perhaps does not belong here, Chantraine, *Gr. Hom.*, pp. 428, 430 with n. 1) does not give a clear indication of laryngeal. Nor are the Indian forms with *i* sufficient to demonstrate laryngeal (as Frisk thinks, II, p. 522). If there was one this ought to have been *h̥*₁. Πίτνω (Pi., A.; for πιτνέω see LSJ) can hardly be explained as a recent formation and therefore seems old; it could be thematization of a present *πιτνημι < **p_et-n-eh̥₁-mi*. It is doubtful whether πέτομαι belongs here, since ἔπατο παμένη here tend more to suggest *h̥*₂. Then it is dubious whether ποταμός stems from the same root: the transition 'falling' > 'river' suggests a torrent, which is not the typical meaning of ποταμός (cf. the Homeric epithets μέγας, ἑύρροος, καλλίρροος, εὐρὺ ρεών; for διυπετής see Schmitt, *Idg. Dichterspr.*, p. 183 ff. ('flying against (in) the sky'). On the other hand, Δ 452 points to a mountain brook). There is thus no certainty in my opinion that πότιμος had a laryngeal.

Rh̥₃ > oR.

κοινοτόξ belongs with ὄρνυμι and therefore has the anīṭ root **h̥₃er-*.

κόρδαξ has no etymology; Skt. *kūrdati* is probably a loan word, v. Mayrhofer.

ὄλμος 'round smooth stone, cylindrical body, mortar' has from the semantic point of view only a slight agreement with Skt. *sūrmī* 'trough to collect water'; the etymology has therefore been abandoned by Frisk.

στόρνυμι is explained as **st̥h̥₃-n-eu-mi* by Ruipérez, *Emerita*, 17 (1949), 106-18. However, Skt. *st̥r̥nomi* points to **st̥r̥-n-eu-mi*; **st̥h̥₃-n-eu-mi* would have given **st̥īr̥nomi*. There is inadequate support for this formation too; Skt. *dhūnoti* is recent for *dhunoti* after the participle *dhūtá-*; θάρνυμι : ὄρνυμι is not an argument, since this op is the form to be explained; in themselves these forms tend rather to point to a Greek innovation than to parallel PIE formations. (Λίναμαι beside ἐλινύω cannot go back to the same root on account of the ē-. Κίνυμαι is recent, like Skt. *krīṇāti*, besides which there are still traces of *krīṇāti*.)

νεώβορον νεώσι βεβρωμένον Hsch. The second element seems cognate with **g^hh₃tos* > βρωτός. The explanation that the laryngeal was lost in composition and op is the Aeolic development of *r* is not a convincing one. A recent formation after βορά ('food' A.), -βόρος (Il.) βορός ('gluttonous' Ar.) seems more probable to me. (If an attempt is made to emend the word, νεόβορον Schmidt, LSJ, it loses its value for the argumentation.)

πολλή beside Skt. *pūrvi* could be added to this list, if πολλ- went directly back to **p_lh₃μ-*. However, this is in no way certain. The original **p_lh₃uih₂* may have been replaced in Greek by a form with πολλ- from other forms; cf. p. 218f. The syncope πολλο- < **πολυλο-* (< **p_lh₃u-lo-* ?) seems highly improbable to me. (Szemerényi, *Syncope* (!), p. 189, is also of the opinion that the form must be explained otherwise, but has still to publish this explanation.)

δρθός, Dor. βορθο- (φορθο-) beside Skt. *ūrdhvá-* could point to **u_rh₃dh-μo-*, but *ūrdhvá-* : Av. *arəδwa-* (without *μ* and without a trace of laryngeal; however, the latter occurs more frequently in Avestan, cf. *pərəna-*, *kamərəda-* (p. 215)) is in itself unclear. Lat. *arduus* (**r_hdh₃μo-* ?) has no *μ* either. If the *μ* has disappeared through dissimilation, a system remains of two ablaut forms, which suggest an old *u*-stem: **u_rh₃dh-u-* **u_rh₃dh-u-*. For the Greek form one might consider a basic form **u_rh₃dh₃du-*, but original *o*-vocalism is also conceivable, **u_rh₃dh₃du-*, cf. μόνος, ὅλος.

δργή 'natural impulse, mood, anger', δργάω 'growing ripe, swell, to be eager', Skt. *úrj-* 'strength, power'. For the meaning cf. Lith. *nařsas* (**h₂ner-t-*) 'courage' and 'wrath'. Since the consonantal stem in Sanskrit is older than *úrjā*, allowance must be made for the declension of an original consonantal stem, which may have been **u_rh₃g-s*, acc. *u_rh₃g-η* (in OIr. *ferg* 'wrath' ?), gen. **u_rh₃g-ós*. Gr. δργή will therefore be more likely to go back to **u_rh₃g-*.

There is consequently not a single case that points irrefutably to the last development discussed, *R_h > oR*; the interpretation of πολλή is too uncertain, δρθός and δργή are more likely to go back to full grade with *o*-vocalism (and therefore belong to the other category). Nor is there any theoretical support for this idea. In the first place it is incomprehensible that no *ap* < *ɣh₂-C* (and *ep* < *ɣh₁-C*) is known, while *pā* is more frequent than *pō*. The idea that *op* developed from *ωp* is defended by Brugmann, *Grundr.*, I², p. 477, on the strength of the parallelism *ωp/pō* with *ap/pa*. However, it is not probable that the latter is an arbitrary interchange, although there are still problems of detail here. The absence of the parallel forms *ap* and *ep* stated above also applies here as a counter-argument. It must of course be borne in mind here that Brugmann regarded only *pō* as the phonetic development (although he also considered *pā*, cf. p. 210). A development *ɣh₃C > opC* cannot therefore be regarded as having been demonstrated, and it is not plausible on theoretical grounds either.

The situation is more difficult with the assumed development *oRH > oR* before consonant. Here too the material is scanty: τόρμος, πόρνη, πότμος and τόλμā may be considered, and from the second group δργή and δρθός. But it cannot be doubted that τόλμā belongs to the stem **telh₂-* and it cannot easily be explained as an innovation (there is no further trace of a stem **τολ-*).

As counter-examples mention can be made only of χρόμαδος δμαδος στοναχή κόναβος κόλαφος, which, however, may be explained as analogic forms. Δοάσσατο, ποταμός and ὄνατο are uncertain. The latter form is perhaps analogic. However, the stem ὄνο-, like ὄμο-, points to the development from laryngeal to vowel after *o*; cf. Persson, *Beitr.*, p. 2.686.

Theoretically the following may be considered: firstly that it cannot be seen why the laryngeal disappeared after syllable with *o*-vocalism, secondly that it is possible that a consonantal laryngeal was not vocalized, as for instance in Indo-Iranian. For Greek, too, one seems to have to assume this in certain cases. See for this problem as a whole p. 254.

2. LOSS OF THE LARYNGEAL IN COMPOSITION

Hirt, *Idg. Gr.*, 2, p. 184 ff., has the interesting thought that the combination of the loss of the laryngeal and the *o*-vocalism originally stems from composition. The loss of the laryngeal in composition will be further discussed here.

In Vedic the loss of *a* (*h*) is known, *AiGr.* 1.82 f. and 93 ff. The same phenomenon is found in Avestan. For instance

stīrṇá : *á-stīrṭá-*
kīrti- : *carkṛti-*
deva-tta (from **dh₃to-*, Gr. *δοτός*)
sū-tí- : *sú-ṣu-ti-* 'easy birth'
śī- 'to lie' : *nī-śi-tā* 'night'
dī- 'to shine' : *dī-di-vi-*
gī- : *tuvi-gr-á-* (not **-gira* < **-g^{lu}ṛh-o-*)
á-hve < **é-ghu-ai* (not **é-ghuḥ-ai*)
á-bhva- < **ḡ-bhu-o-* (not **ḡ-bhuḥ-o-*)

Of course, the form of the simplex was often restored in the compounds: *sú-ṣū-ta*, *prá-tūrṭi-*. The cases with *h* after *o*-vocalism in composition, where the laryngeal prevents lengthening in accordance with Brugmann's Law, must therefore be viewed in this way (type *aja-gará-* < **g^uorho-*, p. 10).

Before vowel one therefore has *-TRH-o-* > *-TR-o-* (or *TRH-o-* > *TRo-* > *TRo-* ?). However, Kuryłowicz, *Apophonie*, p. 172 (and p. 197 f.), gives an incorrect interpretation of the development before consonant as *-TR₂-C-* > *-TR₃-C-* (i.e. *-TRH-C-* > *-TR₂-C-*). According to him, one would therefore have a fundamentally different development than before vowel, viz. a shift in the syllabicity. This is improbable, and moreover one would expect from *R₂* (*R₂*) in Indian *Ri* (e.g. **carkṛti-* < **-kr₂ti-*). His further assumption that *R₂* became *R₁* in Indian has no support and is superfluous if, instead of the unexplained shift in the syllabicity, one assumes disappearance of the (consonantal) laryngeal, *-TRH-C-* > *-TR-C-*.

Kuiper has discussed the phenomenon in *Die Sprache*, 7 (1961), 14-31 (and *Lingua*, 11 (1962), 225-30). He doubts that it goes back to PIE. Almost all instances that are adduced come from Vedic. He further assumes that the (few) forms of the type *pari-tta* developed by metathesis of the laryngeal, **pari-dh₂ta* > **pari-h₂ta* > *pari-tta*.

In this way there is thus an indication of the preservation of the laryngeal in composition down to the separate languages (*-dh̥to-*). However, in my opinion this does not exclude the possibility of PIE origin. (The type *paritta* is probably a compound that first appears in Indian, as Kuiper also assumes.)

It is understandable that everywhere else, also already in Homeric Greek, the form of the simplex has been restored in composition, so that the original form is still found in isolated instances only. This consequently hampers proof and gives all the more value to the possible cases.

Independent parallel development is also possible. Kuiper has pointed to a similar phenomenon in a Munda language, Sora. In Latin others have pointed to *Consus* < **con-dh̥tus*. If J. P. Smit's explanation of *cognitus* < **cognatus* < **cognahtos* < **-ǵnh̥₁tos* is correct, this points to the same phenomenon in Latin, but not in PIE (that would have been **-ǵh̥-tos* > **cogentos* > **cogintus*); see p. 204.

Here the Greek material should therefore be considered.

Hirt (p. 186) mentioned the following cases.

ὄβριμος (Il.): βρίμη; these words are probably of non-IE origin, see p. 54.

ἐπισκύνιον (Il.) 'skin of the brows': σκύλα 'spoils'. However, a connection with σκύλος 'animal's skin, hide', is more self-evident. The etymology is further unknown.

ἔγκυτι (Archil.) is too uncertain to be used as an argument (Frisk s.v. and s. κύτος).

In my opinion not the slightest value may be attached to these words. The following seem more important to me.

If ἔγκρος is based on **en-ǵh̥₂-o-*, it must have lost the laryngeal, for otherwise one would expect **ἐγκαρο-*. It is then entirely in line with νεογνός mentioned below.

στρατός, Aeol. στρότος, parallel to Ved. *á-str̥ta-*. However, there is no indication in Greek of origin in composition. See further below.

βρότος 'gore' has been compared with Skt. *mūrtá-* 'clotted'. Leumann, *Hom. W.*, p. 124 ff., rejects this explanation on the strength of the phonetic difficulties and gives another explanation that is difficult to summarize. He assumes that it is an artificial word from epic language and bases his view on the passage E 339 f. The expression ἄμβροτον αἷμα occurring here, borrowed from an older passage, has, he says, been wrongly interpreted as 'Nichtblutblut', from which βρότος = αἷμα has been concluded. If the identification with *mūrtá-* is correct, ἄμβροτον could be interpreted as 'uncongealable blood' (**h̥-m̥h̥-tos* > **h̥-m̥-tos* > ἄμβροτος), but 'immortal blood' is more self-evident. However, it remains difficult to see — despite Leumann — how βρότος 'blood' was concluded from this locution.

γίγνομαι is cited by Kurylowicz, *Apophonie*, pp. 172, 197 f. PIE **ǵi-ǵh̥₁-o-* would have given **γι-γενο-*, Lat. **gigano*. Skt. *áji-janat*, Av. *zī-zanānti* are thematizations of **ǵi-ǵen̥h̥₁-mi*. For the aorist ἐγένόμην see p. 225. For the perfect see below. The same problem would be presented by κέκλετο, the aorist of κέλομαι, if the stem is **kelh̥₁-* (p. 235). The same applies to ὁμοκλή if **ḥmo-kl̥-ā* < **-klh̥-ā*. I am not

certain that κλόνοϝ 'confused motion, turmoil, battle-rout' belongs here (Frisk), on account of the meaning.

Another word which does belong here is νεογνός, which has many parallels in the other languages, Goth. *niuklahs* (< **knahas* < **gnh₁o-kos* (but see Feist); not *-kuna-*), *ainakls* (< **aina-knaz* < **oino-gnh₁os*; Feist has a different opinion), Lat. *privi-mali-beni-gnus* (not *-ganus*; cf. Leumann, *Lat. Gr.*, p. 202), Celtic, e.g. Gaul. *Trutiknos*, *Enignus*, Av. *ā-zna-* ('innate'), Phryg. ονεγνώ;¹¹⁸ with *io* derivative ὁμόγνιος, Gaul. *Abegnīa*. Cf. *manipulus* < **plo-* (not *-palus*), Skt. *kāma-pr-ā-* (not **-pura-*) 'fulfilling desires'.

At this point we should also deal with forms like τέτλαμεν, which could be interpreted as **te-tl̥h-mes* > **te-tl̥-mes*. The group should be considered as a whole, and we shall begin with γέγονα. Cowgill (p. 148) disclaims loss of the laryngeal in composition (**ge-gn̥h₁-* > **ge-gn̥-*) and starts from an anit̥ root **gen-*, "hardly attested outside of Greek", (n. 7) "Most notably in Latin *gens*". Lat. *gens* here, as demonstrated above (p. 228), is no proof: the form may equally well go back to **genh₁ti-*, like *pars* to **perh₁ti-* and *palma* to **plhma*. It is therefore more self-evident, as Cowgill also suggests in n. 8, to explain γέγαμεν as analogic form, starting from an original system γεγονα *γεγνη- (**gegnā-* in Cowgill's view), on the example of μέμονα μέμαμεν.

There is consequently no reason to assume for γέγαμεν loss of the laryngeal in composition, which reduces the possibility that τέτλαμεν is based on this. Moreover, it would not be comprehensible why beside τέτλαμεν a form τέτληκα (τετληότ-) existed, where one would after all expect τε-τλᾶ-. But τέτληκα is also recent, since one expects **te-tolh₂-* (pl. **te-tl̥h₂-*). (Perhaps Lat. *tetuli* goes back to this form.) It cannot be taken for certain that βεβολήατο (I 3), βεβολημένος (I 9 ~ κ 247) points to a perfect *βεβόλα (cf. Chantraine, *Gr. Hom.*, p. 435, and Frisk s.v. βούλομαι). It is possible, but not demonstrable, that the perfect of the type τε-τλη- goes back to medial forms with zero grade; only beside βέβληκα do such forms occur in Homer (βέβληται etc.). On the other hand, passive forms of θνήσκω, κάμνω and τλῆναι are inconceivable and the medio-passive perfect is as a whole recent, since the perfect itself is perhaps in origin cognate with the medium (see p. 133). It therefore seems most probable that the type τε-τλη- is of Greek origin and likewise the vocalic interchange. Cowgill (p. 150) speaks, in emulation of Kuryłowicz (*Apophonie*, p. 197), of a 'super-zero grade' (τλᾶ- compared with τλη- < **tl̥h₂-* : τλη- < **tleh₂-*), which has been formed on the example of the type στή- : στᾶ- and the (Greek) *a*-vocalism of the zero grade of anit̥ roots (*R* > ap/pa etc.). Here, therefore, *τετολα *τετλημεν will first have been replaced by *τετληα (cf. also τετληότι) *τετλημεν, this by *τετληα τέτλᾶμεν and finally *τετληα by τέτληκα. In the same way τέθνηκα τέθναμεν arose; here τέθναμεν cannot be based on loss of the laryngeal, for **dhe-dh₂en-* would have given *τε-θα- (γέγονα γέγαμεν and τέθνηκα τέθναμεν therefore stem from the same system).¹¹⁹

¹¹⁸ In a Greek (!) inscription, *MAMA*, 167: ονεγνώ υἱῷ = τῷ ἰδίῳ υἱῷ. **Ouegnos* 'selbst erzeugt' < **sye-gnh₁o-*; for **sye-* cf. Skt. *sva-jāta-*, *sva-jana-*.

The same problem may be found in πίμπλημι πίμπλαμεν, to which in Sanskrit *píparmi pipṛmāḥ* conforms. The plural forms may go back here to **pipṛmes*, and *píparmi* be a secondary form based on the plural (and on the analogy of *píparmi pipṛmāḥ* 'to ferry', which in Vedic has an aniṭ root), while on the other hand πίμπλημι seems old in the Greek system (**pi-pleh₁mi*); Av. (*ham-pa-*)*frāi-ti* presents a parallel. It therefore seems that πίμπλαμεν is based on a similar secondary ablaut to τέτλαμεν (**pleh₁-* and **pl_h₁-* had after all coincided in πλη-). Skt. *pipṛmāḥ* will be based on loss of laryngeal in composition. The stem form χρε- (beside χῥᾱ-) of κίχρημι (Schwyzer, p. 689, Frisk s.v.) points clearly to new formation of a weak grade. The other presents with this interchange are πίμπρημι κίγκρημι ἴλημι and τίτρημι (Kurylowicz, *Apophonie*, p. 205, n. 49).

The cases for which loss of the laryngeal in composition should be considered are therefore στρατός, ἵγκρος and γίγνομαι/νεογνός. Even if στρατός were the only case this seems to me to ensure the principle for Greek too: it seems undeniable that it belongs with στόρνυμι στρωτός, on the strength of the semantic parallels, and in that case another explanation is not possible. Cowgill (p. 155 with n. 27) assumes that one must start from PIE **ster-* beside **sterh₃-*. In Indo-Iranian a distinction in meaning is apparent, *str-* 'to lay low, strike down (enemies)': *stṛ-* 'to strew, spread out'. This division may of course also be *secondary*. His remark (n. 27): "Presumably the enlarged and unenlarged roots were not at first completely synonymous. ... Later each language moved toward (either) reuniting the two in a single paradigm, (or else eliminating the *ster*-forms)" is improbable: differentiation from one paradigm is much more frequent. In any case Greek στρατός does not have the meaning of Ind.-Ir. *str-*, and the meaning is entirely identical with στρωτός (στόρνυμι) and Lat. *strātus*. His invocation of PIE **ster-* therefore does not seem justified.

3. THE PRESUMED DEVELOPMENT OF *RH* AS *Rə*

In the old view that the *ə* was exclusively vocalic, it was self-evident that the group sonant-*ə* was reproduced in the separate languages by sonant (in consonantal function) followed by short vowel. Thus τῥᾱ- was explained from **tlə-* (as for instance still in Chantraine, *Morph.*², p. 12; less definite is *ibid.*, p. 9).

Within the laryngeal theory, which assumes that *ə* was usually consonantal (*ʔ*, *h*), one expects in the group *CRHC* a vocalic sonant (*RH*, with the Greek developments ρᾱ ρη ρω). It is not impossible to assume for the proto-language a vocalization *CRḤC*, but this is not very probable. So Cowgill states, pp. 150 and 153. In any

¹¹⁹ The replacement by the short *ă* is perhaps demonstrable in the perfect of ἰλάσκομαι, if B. 10.8 ἔλλαθι goes back to *σε-σλᾱ-θι as against ἔλλατε (Call.), ἰλάθι (Theocr.): here *σλᾱ- could go back to *s/l_h- (an opinion not shared by Frisk). However, a problem is presented by the forms with *e*-vocalism, Lac. ἡλέφοι; this would lead one to expect *ἐλλαθι. But there are many problems attached to the interpretation of the forms of this stem.

case it seems called for to start from *CRHC*, and to consider the other possibility only when the facts cannot be explained otherwise. In the preceding chapter it was demonstrated that τέτλαμεν πίμπλαμεν can be easily explained in another way. The forms πλάθανον (p. 181) and γνάθος (p. 190) do not seem an argument for $R\tilde{h} > R\check{a}$ either. For the forms with \check{a} of ῥήγνυμι τμήγω πλήσσω see p. 183; in the case of the last verb these do not appear until Ionic-Attic, and in the case of the first two one expects $\varepsilon < \tilde{h}_1$ (for \tilde{h}_1 in τμη- see p. 221ff.).

Reference may be made here only to γλῶσσα γλάσσα, which seems to preserve an old ablaut; in an isolated word like this it seems less probable that we are concerned with a more recent analogic form (γλῶ- instead of γλᾶ- ?), as Cowgill, *loc. cit.*, assumes. Pedersen, *Cinq. décl.*, p. 30, assumed with regard to these forms that they go back to an original paradigm γλῶσσα *γλασσᾶς cf. ὀρόγνια etc., p. 37. In the element preceding the suffix *-ih₂*, however, one expects no full grade, and therefore no *o*-vocalism either.¹²⁰ If the stem contained a laryngeal, one could explain λῶ from a zero grade $\check{l}h_3$, but in that case one would have to assume that beside $\check{l}h_3$ a vocalization $\check{l}h_3$ occurred and that \check{h}_3 became α . If the laryngeal were \check{h}_2 , then in any case, apart from the full grade with *o*-vocalism ($oh_2 > \omega$), one would expect λᾶ instead of λῶ. In my opinion the stem cannot therefore have contained a laryngeal, and one must start from PIE *glōgh- *gl̥gh- (or *gl_egh-). This ablaut, and in particular the form with lengthened *o*-vocalism, makes an old feminine highly improbable and tends more to point to a root noun, which in Greek would have been *γλῶξ *γλαχός. The existence of this is confirmed by the pl. γλῶχες (with elimination of the old ablaut). When the forms with γλῶχ- were generalized and those with γλαχ- disappeared, the old feminine γλάσσα < *gl̥gh-*ih₂* was replaced by the newly formed γλῶσσα.

A few other Greek words possibly had the same ablaut. For πτώξ -κός (II.): πτάκα (acc. A.), πτάκις (Com. Adesp. 1127) 'hare' πτώξ *πτακός is probable, but in view of the connection with πτήσσω, Dor. πτᾶσαι (of which the \check{a} must go back to $\check{e}h_2$), one must count here on the possibility of *ptoh₂k-s *pt̥h₂k-ós. Πῶξ 'breach, narrow passage', ἀπόρρωξ etc., which belongs with ῥήγνυμι, also had a laryngeal. Πῶξ ῥᾱγός 'grape' is not of importance here (in view of the $\bar{\alpha}$) and is perhaps non-IE. (A word with this structure that is definitely non-IE is δρώψ; see p. 72.) It is difficult to appraise ῥώψ (ῥῶπες Od.): χρυσό-ρραπις (Od.). Connection with ῥέπω, ῥέμβομαι or ῥάπτω, as Frisk suggests, does not seem to me to have a sufficiently firm semantic basis. On the other hand, the comparison with ῥόπαλον seems self-evident (I see no reason to connect this with ῥέπω, as Frisk does). Ράβδος will also belong here. But if καλαῦρον καλαυρόφης and ῥάμνος ('various prickly shrubs', cf. ῥῶπες) are cognate with this, one must think of non-IE origin instead. Τρώξ, -γός (Strattis, V B.C.) 'gnawer, name of the weevil': τράγος (Od.) may have been derived from

¹²⁰ That the stem — but not the element directly preceding *ih₂* — could have *o*-vocalism is evident from ὀρόγνια, which must go back to *h₃roǵ-us-*ih₂*. One would like to posit *h₃reǵusi*h₂* for this form, but the parallel form ἀρεπνία points to full grade; *h₂re*pusih₂* could not have become other than *ἄραπνια.

τρώγω ἔτραγον. Beside *πρῶξ πρῶκες 'dewdrop' (Call., Theocr.) one has πρόξ, -κός 'roe deer' (ρ 295), πρακνόν· μέλανα Hsch., περκνός πρεκνός, Skt. *pṛśni-* etc.; for the meaning see Frisk under these words. True, there is no proof here of an ablaut **prōk-s* **prk-ós*, but the first form may be regarded as certain. This is also evident from κλώψ (Hdt.), which without doubt belongs to κλέπτω, and φῶρ (Lat. *fur*), which is derived from the root **bher-* in φέρω. If Arm. *erast-an-k'* may be based not only on **prhkt-* but also on **prkt-* (Boisacq), a noun **prōkt-s* **prkt-ós* is possible for πρῶκτός. As, according to Meillet, *Esquisse*², p. 42 f., both *r* and *ṛ* (*rə*) and *er* became *ar* in Armenian, one might also assume **prēkt-*. This view would be confirmed if Skt. *pṛsthám* 'back' belongs here. Mayrhofer (s.v.) doubts this on account of the vocalism, which in this view is not a drawback. The meaning is more likely to point in this direction; it is difficult to see how **pr-sth₂-o-* 'standing in front, leading' could become 'back'. Cf. also WH s.v. *postis*. On account of the Indian *th* one must perhaps in that case assume a laryngeal after the *t*. It is sufficiently known that lengthened *o*-vocalism in PIE could characterize the nominative. One may recall those ending in *-ōn* (Introduction, p. 12, λειμών), *-ōr*, *-ōs* (p. 202) and further ὀδών (with Skt. *dánt-am dat-ás* from PIE **dónt-ṛi* **dnt-ós*), κυών (of which Lat. *canis* will continue a reduced grade, whatever may have been the exact development) and with *-s* **gh₂óm-s* **gh₂m-ós* 'earth' (p. 196) and **pód-s* 'foot' (πῶς).

Thus γλῶσσα γλάσσα cannot be used for whatsoever argument with regard to the laryngeal theory.

4. DISYLLABIC ROOTS WITH *i*, *u* BEFORE THE LARYNGEAL

As regards the disyllabic roots with *i*, *u* before the laryngeal one sometimes assumes that *ih*, *uh* before consonant could become not only *i*, *u* but also *ia*, *ua* (or *ε* or *ο* instead of *α*). In the preceding section it proved that the development *Rə* (*Rh*) is not a probable one. One would therefore expect that in the group *i* (or *u*) followed by laryngeal too the *i* (or *u*) was syllabic, and the laryngeal consonantal. On the other hand it appeared probable that *ih₂*, *uh₂* at the end of the word became *ja*, *fa*. We shall therefore briefly discuss the cases that are believed to have had this development.

βρῖθός βρῖθω : βριαρός (Il.). The same root is assumed in Skt. *grī-ṣmá-* 'high summer' (enlargement of **gʷer-* in βαρύς?). It is not necessary that βριαρός directly represents **gʷrih₂ros*. A recent formation, βρι(ῃ) + αρος, is conceivable, as is **gʷrih₂-ero-*. Frisk's *-iḡ-* (i.e. *iḡh*) presupposes that *i* and *h* could at the same time be vocalic, which is not probable. One might consider *ēih₂* > *ia* (for the structure **gʷrēih₂-* cf. **gʷrēui-* that is suggested by Lat. *gravis*), but from *ēih₂* one could also expect *aḡ* (cf. Lejeune, *Traité*, p. 177 f., whose explanation is not historical, however).

πρίατο (α 430 ξ 115.452 ο 483, all πρίατο κτεάτεσσιν ἑοῖσιν |; other forms in Attic), which is cognate with Skt. *krīṇāti* (for *krīṇāti*) and OIr. *crenaim* (**kʷri-n-eh₂-mi*), could go back to **kʷrih₂-e-to*. Forms like ἐπριάμην πριαίμην πριάμενος must in that

case stand for $*\pi\rho\iota\sigma < *k^u r i \tilde{h}_2\sigma$. (Cf. Hom. ἔπτατο παταμένη — either a root-aorist ($*p\tilde{h}_2$), or a thematic aorist ($*p\tilde{h}_2\epsilon$) — beside (more recent ?) ἐπιπτεύσθαι (Δ 126), where the ε is therefore secondary for the α < $\tilde{h}_2\epsilon$ to be expected.) In general one expects with $\tilde{h}_2\epsilon/o > \alpha/o$ generalization of the α or replacement by ε/o. Lejeune (with many predecessors) assumes $*k^u r^o \gamma \tilde{h}_2$ -, in our notation $*k^u r_e \tilde{h}_2$ -; in that case $\pi\rho\iota\sigma$ would be athematic.

κινέω κινύμαι suggests $*ki\text{-}n\text{-}eu\text{-}mi$; the *eu*-enlargement is also found in $*k\tilde{i}\text{-}eu$ -, σεύω and related forms. Here one would therefore expect short ι. True, in κινύμενος (K 120 Ξ 173 κ 556) and μετεκίαθαι metrical lengthening is probable, but this does not seem an adequate explanation. The α in μετεκίαθαι and κίατο· ἐκινεῖτο Hsch. probably points to laryngeal. The element αθ may have developed from $\tilde{h}_2\text{-}edh$ (cf. Schwyzler, p. 703,2); μετεκίαθαι seems to be the oldest form (Λ 52.714 Π 685 Σ 532.581 α 22) with αθ (Homer still has only ἐέργαθεν (E 147 Λ 437 Ξ 36 Φ 599 φ 221). Thus κίατο may represent $*ki\tilde{h}_2\text{-}e\text{-}to$ (cf. $\pi\rho\iota\sigma$), and possibly $*k_e \tilde{i} \tilde{h}_2$ -, beside κίε with analogic ε. In that case ι could be analogic after ι < $i\tilde{h}C$ ($*ki\tilde{h}\text{-}n$ is inconceivable). Another explanation may be that the length derives from the thematized plural forms; for instance:

$*di\text{-}n\text{-}eu\text{-}mi \rightarrow *δινε\omega > *δινέω \rightarrow δινέω$ (Aeol. ?δίννημι)

$*di\text{-}n\text{-}u\text{-}més \rightarrow *διν\omega > δίνω$ (Aeol. ?δίννω)

This view is presented by Heubeck, *Proc. Cambr. Coll. Myc. Stud.*, p. 233, n. 5. (If $\nu\phi$ in Aeolic became $\nu\nu$, δίννω (Hdn.) provides support for δίνω (Hes. *Op.* 598) and δίννημι (? Sappho, 1.11) is an indication that the forms ending in $-\epsilon\omega$ -ημι did in fact undergo the influence of those with $-\nu\phi$ -. However, this development is not certain, Schwyzler, p. 228, Lejeune, *Traité*, p. 137, n. 1.)

βίῃ corresponds to Skt. $j(i)yā$, i.e. $*g^u i\text{-}eh_2$ (or $*g^u i\tilde{h}\text{-}eh_2$?). Sanskrit has two presents, $jīnāti < *g^u i\text{-}n\text{-}eh\text{-}ti$ and $jáyati < *g^u e\tilde{i}\tilde{h}\text{-}eti$. If βινέω 'coire, future' belongs with this, one has the same problem as with κινέω. Ζάει (βινεῖ Hsch.) < $*g^u i\tilde{e}\tilde{h}_2$ - as against βι- < $*g^u i\tilde{h}_2$ - (or $*g^u e\tilde{i}\tilde{h}_2$ - ?).

βίῳ ναί βίωτος II. (βιοτή βίος Od.), ζώει II. For βίωτος βιοτή (cf. ἀρετή) a stem form $*g^u i\tilde{i}\tilde{h}_3$ - is assumed. The forms βιω- point to $*g^u i\tilde{i}\tilde{e}\tilde{h}_3$ -, and those with ζω- to $*g^u i\tilde{e}\tilde{h}_3$ - (from a present $*g^u (e)\tilde{i}\tilde{e}\tilde{h}_3\text{-}mi$? Cf. p. 236f.). The full grade is found in βείομαι X 431, βέομαι O 194, βέη II 852 ~ Ω 131 (Chantraine, *Gr. Hom.*, pp. 115, 452, both with Add.), which perhaps goes back to a conjunctive $*g^u e\tilde{i}\tilde{h}_3\text{-}o$ -. Skt. $gáya$ - points to $*g^u o\tilde{i}\tilde{h}\text{-}o$ -.

There are also indications of \tilde{h}_1 . Thus Cretan has βίετος (of which, however, -ετος could be secondary, Schwyzler, p. 501).¹²¹ On the strength of the comparison with Av. $hu\text{-}jyā\text{-}ti$, ὄγιτης is derived as $*g^u i\tilde{i}\tilde{e}$ -. And yet for this *s*-stem derivation from $*g^u i\tilde{h}_1\text{-}es$ - seems more self-evident. The forms of ζῆν, which Thurneysen considered to be analogic (IF, 38.147, in accordance with $\nu\delta \nu\eta\varsigma$, $\sigma\mu\delta \sigma\mu\eta\varsigma$), are traced back by Leroy to an \tilde{e} -stem (*Sprachgesch. u. Wortbed.*, p. 288). Possibly one ought to

¹²¹ Here βίωτος has been wrongly included in the group with 'o-Stufe der Wurzel'.

assume beside $*g^u\dot{\iota}eh_3-$ a variant $*g^u\dot{\iota}eh_1-$ (compare the interchange stated s.v. κινέω *supra*); this view is shared by Chantraine, *Morph.*², p. 13.

σῶος. As Leumann has demonstrated (Μνήμης χάριν II (1957) 8-14, *Kl. Schr.*, pp. 266-72) σῶος is not an old ablaut variant, but thematization of the σῶς contracted from σάος. In Homer one finds σόος (Il. 7 times, Od. 3 times), σῶς (N 773 ~ ε 305 ~ χ 28 ο 42 ~ π 131; only X 332 in the first element of the dactylus, init.) σῶν (A 117, ~ Θ 246, where we find σόον, P 367). The conclusion that σόος is metrical diectasis for spoken σῶς from original σάος is an obvious one, whilst σῶς σῶν are either based on contraction of σάος, or are more recent forms (as is certain for X 332).

One must consequently start from σάος, i.e. *σαφος on account of Σαφοκλεφης etc. It has been connected with Skt. *tavīti*, 'to be strong, powerful'. The traditional formulation $*tu\bar{o}-mo-$ could be replaced by $*tu\check{h}-mo-$, but this form is phonetically improbable (a vocalic laryngeal between sonants), cf. p. 246. Moreover, the probably cognate ταῦς· μέγας, πολὺς Hsch., ταῦσας· μεγαλύνας, πλεονάσας, which was interpreted as $*təu-u-$, cannot be connected in this way with $*tu\bar{o}mo-$. For ταῦς one must probably start from $*t_eu\check{h}_2-u-$, with the reduced grade that is frequent among *u*-stems, cf. βαρύς, Skt. *gurú-* from $*g^u_e ru-$. For the root form $*t_eu\check{h}-$ cf. Skt. *tuviṣ-* < $*t_eu\check{h}-s-$. For the Indian forms of this root see Kuiper, *Act. Or.*, p. 20. It is therefore self-evident that for σάος too one should start from an *u*-stem with reduced grade, but here, since σ points to t_u- , from $*t_u\check{h}_2u-$. It is probable that one has \check{h}_2 here because otherwise the directly preceding reduction vowel would have been coloured to *e* or *o*. For the formation one can compare $*g^u r_e u-$, Lat. *gravis*, beside $*g^u_e ru-$; cf. ταναός (p. 190f.) and κραταιός.¹²² Now while $*t_eu\check{h}_2-ús > *ταφύς$ was preserved longer (because of the *ῥ*), $*t_u\check{h}_2-ús > *sa\check{h}_2us$ was contracted at an early stage to $*\sigma αυς$. However, this resulted in a very abnormal form, which is why this was thematized to $*\sigmaάφος$, like the later σῶς was replaced by σῶος. One thus has beside $*t_eu\check{h}_2-ús > ταῦς$ on the other hand $*t_u\check{h}_2-us > *sa\check{h}_2us > *\sigma αυς$ replaced by $*\sigmaάφος > \sigmaῶς$, replaced by σῶος.

κύαμος is in my opinion non-IE (v. Frisk).

The conclusion from the cases discussed is that for πρίατο (κίατο) and βίοτος (βίετος) the representation referred to is possible. The question that arises when this is assumed is whether the basic form was just $i\check{h}_2$ (for instance). If one uses the notation $i\check{h}_2$, the question remains how this group must be historically interpreted. Did $i\check{h}_2$ spontaneously acquire after certain consonantal combinations a preceding vocalic element ($CCi\check{h}_2 > CC^i\check{h}_2$), possibly in sandhi, or must one allow for a reduced grade of $e\check{h}_2$, since beside (for instance) $e\check{h}_2$ a group $e\check{h}_2$ is to be expected a priori? The comparison of βίοτος with κάματος leads one to expect a basic form $*g^u_e\check{h}_3-tós$.

¹²² Risch, *Worth. d. Hom. Spr.*, pp. 68 and 117, is of the opinion that κραταιός is built on the feminine κραταιή, which itself is said to stand for $*κραταια$, the old feminine of κρατός, like Πλαταιαί from πλατός. If the latter goes back to $*p\check{r}i\check{h}_2u\check{h}_2$, this explanation is not possible for $*κραταια$. For this word did not have a laryngeal, as emerges from Skt. *krātu-* (which would have been $*kráthu-$ if it had had $-th-u-$). However, for both a form ending in $-e\check{h}_2$ is possible; Skt. *pṛithivī* is even more easily explained by $*p\check{r}i\check{h}_2e\check{h}_2$. Cf. also ταναός, p. 190f.

If one asks oneself how this group would be represented in Greek, one might assume that $e_i(\tilde{h})$, $e_u(\tilde{h})$ became $i(\tilde{h})$, $u(\tilde{h})$ back in the proto-language. The symbol i , u could then be used to indicate that this vocalic element became i , u in all languages. This development would not be dependent on the following laryngeal. If, however, the explanation given above of $\tau\alpha\upsilon\varsigma < *t_e u \tilde{h}_2 - \acute{u}s$ is correct, then a development $e_i \tilde{h}_2 > \alpha$ would emerge from it. One comes up here against the general problem of e_i before vowel. This group is rare and the problem cannot be further dealt with.¹²³

(For $\pi\rho\acute{\iota}\alpha\tau\omicron < *k^u r i i \tilde{h}_2 - \text{to} / k^u r_e i \tilde{h}_2 - \text{to}$ compare $\delta\nu\omicron\mu\alpha\iota$, if in fact it is from $*_e n \tilde{h}_3 - \text{toi}$, p. 231.)

5. PRESENTS ENDING IN $-n\tilde{e}mi$ AND $-n\tilde{o}mi$

Beside the nasal presents ending in $-n\tilde{a}mi < -n-e\tilde{h}_2-mi$ one would also expect a priori such nasal presents ending in $-n\tilde{e}mi < -n-e\tilde{h}_1-mi$ and $-n\tilde{o}mi < -n-e\tilde{h}_3-mi$. Among others Meillet has drawn attention to this, *Mél. Vendryes*, pp. 275-85, describing the absence of the last two categories as a problem for De Saussure's theory. This absence would indeed be strange, but this is no greater problem for the laryngeal theory than for the old interpretation (as he also admits on p. 284). The conclusion would only have been that $n\tilde{e}$ - and $n\tilde{o}$ -presents did not occur, for unknown reasons, or — and this still holds good — that they were superseded in the historical languages. Disyllabic roots ending in \tilde{h}_1 and \tilde{h}_3 seem to have been not as frequent as those ending in \tilde{h}_2 , which may explain why these formations were eliminated. It has been wrongly thought that in the article mentioned Meillet had proved that presents ending in $-n\tilde{e}mi$ did not exist, cf. for instance Pedersen, *Cinq. décl.*, p. 63 (which is surprising in this book). He merely established that no convincing example of $-n\tilde{e}mi$ or $-n\tilde{o}mi$ could be given.

It was stated above that Greek has a few verbs that point to an original $-n\tilde{e}mi$. The original system of 'to throw' was $\beta\acute{\alpha}\lambda\lambda\omega$ — $\epsilon\delta\epsilon\lambda\omicron\nu$ (from $*\acute{e}-g^u i \tilde{h}_1 - om$). The present $\beta\acute{\alpha}\lambda\lambda\omega$ cannot but go back to $*g^u i - n-e\tilde{h}_1-mi$, since a $i\tilde{o}$ -present is out of the question ($*g^u i \tilde{h}_1 - i\tilde{o}$ gives $\beta\lambda\eta\eta\omega$, and a stem form $\beta\alpha\lambda-$ did not exist elsewhere). For $\lambda\lambda$ see Lejeune, *Traité*, p. 133 (cf. $\delta\lambda\lambda\upsilon\mu\iota$).¹²⁴ It cannot be doubted here that the root ended in \tilde{h}_1 . Wackernagel-Debrunner, *KZ*, 67 (1942), 159 f. (cf. Schwyzler, p. 693, with n. 9),

¹²³ One might ask oneself whether $e_i(i)$ became i before consonant, which would offer a solution for certain ablaut problems (e.g. $*p\tilde{i}-$, the zero grade of $*p\tilde{d}(i)- < *pe\tilde{h}_3(i)-$, from $*ph_{3e}i-$, $*ph_{3i}i-$; thus also $\epsilon\pi\iota\omicron\nu$ from $*\acute{e}-ph_{3i}i\omicron m$). One sees the similarity — and the dissimilarity — with the explanation of the old school from $\acute{e}i$, $\acute{e}u$ (which for instance is still defended by Hendriksen, *Unters.*, p. 94); this would be $\tilde{h}i$ in the notation of the laryngeal theory, which is a highly improbable structure. Kurylowicz, *Etudes*, p. 41, starts from $\tilde{e}hi$; however, for this one is more inclined to expect the same development as of full grade ehi .

¹²⁴ Lejeune's assumption that we are concerned here with a 'traitement récent' seems correct, but incorrect is the idea that these forms did not develop until after 'grec commun'; a much more likely cause is that these groups were *longer preserved* here than elsewhere (which may also be suggested by $\pi\acute{\iota}\lambda\nu\alpha\mu\alpha\iota$) on the analogy of the type $\sigma\acute{\kappa}\iota\delta\nu\alpha\mu\alpha\iota$ etc., where the n did not follow a i .

assume that *βάλλημι still survives in βαλλήσω and βαλλητός. However, the first form occurs only in Ar. V. 222 and 1491, while Homer has βαλέω (Θ, Od.; βαλῶ P 451). A future ending in -νησω of verbs ending in -νημι < -*nāmi* is unknown. Most futures ending in -ησω have been derived from the aorist stem (Schwyzer, p. 782), but cf. τυπτήσιν (Ar.), παιήσιν (Ar.), ὠθήσιν (S., E., Ar.) and εἰδήσιν (Hom.). One is therefore probably concerned with a recent form here. For βαλλητός see Frisk s.v. However, it is important that, according to Pedersen, Celtic also has *-ball-* with *ll* from *ln* (VKG, II (1913), 459).

The form σκήλει(ε) Ψ 191 seems built on *σκάλλω; beside σκέλλω this could point to an original *σκάλλω — *ἔσκελον, of which *σκάλλω may be based on **skl̥-n-eh̥₁-mi* (cf. Chantraine, *Morph.*², p. 6, n. 1).

For τάμνω ἔτεμον a nasal present cannot be doubted, any more than for κάμνω. Only Cardona, *Lg*, 36 (1960), 502-7, believes that these two forms are Greek *vō*-presents, built on the aorist stem (ἔκαμον ἔβαλον); however, the latter is impossible with a system τάμνω ἔτεμον. It cannot be seen that this explanation is more probable than that of thematization of *καμνᾶμι, which offers a historical explanation for the *vō*-present. His argument that these two verbs are the only disyllabic roots that have a thematic aorist (to which βάλλω ἔβαλον should be added), ceases to apply insofar as no *πόρνω is built on ἔπορον etc. (θάρνυμι — ἔθορον also indicates an old *n*-present, which in any case cannot have been built on the aorist). His parallel πίνω is based on Leumann's reconstruction of the old aorist of this root, of the correctness of which I am not convinced; see p. 175 ff. Cardona is of the opinion that a 3 pl. *-n-h-onti* (Schwyzer, p. 663) is improbable, since the ending of the 3 pl. was probably just *-enti* (beside *-nti*), despite Meillet, *Intr.*⁸, p. 228, which is mainly based on Hittite (e.g. *kunanzi* beside *kuemi kuesi kuenzi*), for after all Skt. *-anti* may also be *-enti*. However, in Hittite *-anzi* is the general ending, and *-enzi* occurs only rarely, as a less frequent variant form (Sturtevant, *Comp. Gr.*, p. 140). It is then probable that we find in Hittite the extension of PIE *-onti* — whatever its origin — at the expense of *-enti*, which may also have occurred elsewhere. Kuiper's doubt about *ταμνημι (meant as *-nāmi*), *Nasalpr.*, p. 68, n. 4, is withdrawn by him, *ibid.*, p. 231 (Nachträge): beside MIr. *tamnaim* one has Lith. *tinù tinti* and ORuss. *tъnu tjati*. Aeol. τόμοντες will go back to *τομνημι and thus confirm **tm̥-n-eh̥₁-mi* (see p. 223).

Another possible indication is the form πίνω 'to fall', which seems to go back to *πίτνημι, especially if the form πιτνῶ (= πιτνέω) is reliable; cf. p. 240.

Reference was made above to πάλλω < **pl̥-n-eh̥₁-mi* (p. 237); this interpretation remains extremely uncertain, however.

Skt. *pr̥ṇāti* 'to fill' cannot simply be used as proof of **pl̥-n-eh̥₁-mi*:¹²⁵ the form *pr̥ṇati* seems older in the Rigveda.¹²⁶ But in that case the question remains of the origin of

¹²⁵ This is done by Chantraine, *Morph.*², p. 14. It shows that this author expects presents in *-nēmi*.

¹²⁶ Kuiper, *Museum*, 57 (1952), 197: one finds 74% of the cases of *pr̥ṇati* in the family books, but not a single one in X, and only 40% of *pr̥ṇāti*, while it occurs 13 times in X. Avestan, too, suggests that *pr̥ṇati* was the old form.

pr̥nati, which can nevertheless best be explained as thematization of **pl̥-n-ĥ₁-(e/o-)* and in that case would point indirectly to **pl̥-n-eĥ₁-mi*. So old a thematization of a nasal present is striking, and it may be asked whether it is coincidental that it occurs precisely from this stem. It might then be assumed that the thematic form arose to avoid a present ending in *-nēmi*, i.e. at a time when *ē* (*-nēmi*) and *ā* (*-nāmi*) were still separate in Indo-Iranian. Later *-nati*, which then stood alone, was replaced by *-nāti*. One perhaps finds a parallel for the occurrence side by side of a nasal present and a reduplicated present (πίμπλημι) in πίπτω: πίτνω (p. 240). However, it is not certain that the nasal present stems from PIE; it may be an Indo-Iranian innovation (for **pipleĥ₁mi*?). See Add.

As ἱερός points to **ish₁-*, Skt. *iṣṇāti* may go back to **is-n-eĥ₁-ti*.

Nor was there any indication of a present with *-nōmi*. *Ομνυμι will be a Greek innovation as against the athematic present in Skt. *ámīti*. And yet one wonders what the starting-point must have been for these forms. From the athematic declension one would be most inclined to expect a thematic one. For στόρνυμι Cowgill, p. 154ff., gives consideration to an original system *σταρνῶμι *σταρνόμεν (which according to Cowgill again stands for *σταρναμεν < *st̥r-n-ĥ₃-) *σταρνοντι (*-n-ĥ₃-enti), of which vo before labial changed into vu, after which, on the basis of *σταρνόμεν -μαι -μενος, a present ending in -νυμι was formed. It seems to me highly dubious that this phonetic law (which is founded on ὄνυμα γυμνός νόξ ὄνυξ) can in itself have brought about the change into another type of declension. In any case this is inadequate proof of a present ending in *-nōmi*. However, it becomes highly probable through the comparison of OIr. *sernaid*, which may represent both *-nāti* and *-nōti*, with Lat. *sterno*, which will go back to an old nasal present, while PIE **st̥rneumi* would lead one to expect a form **sterno*. For the view of Puhvel, *Laryngeals and the Indo-European Verb*, I may refer to the discussion by Cowgill, *Lg*, 39 (1963), 248-70; the idea (the third, labio-velar laryngeal *A''* becomes *u* back in PIE) is based on too unreliable an interpretation of a small number of facts and requires a series of arbitrary assumptions.

After the above had been written, I saw the article by Heubeck, *Proc. Cambr. Coll. Myc. Stud.*, 1966, pp. 229-38, in which possibly a clearer indication is found. He is of the opinion that Myc. *qeqinomeno qeqinoto* (**g''e-g''inōmenos g''eg''inōtoi*) is cognate with Hom. δινωτός, but that this group is not cognate with δινέω. Like Richardson, he derives the verb **g''inoō* from the root **g''ieĥ₃-* and assumes a development of meaning 'to make alive, vivify > to decorate (by living figures of nature)'. This connection of **g''ieĥ₃-* with painting is in my opinion confirmed by the classical Greek term for 'to paint', ζωγράφειν (since Hdt.). The verb **g''inoō* could have been derived from **g''iĥ₃-nos* > **g''inos* (cf. Lat. *vīvus* from **g''iĥ₃-uos* etc.), but (with Forssman) he considers the possibility of a verb **g''i-n-eĥ₃-mi*. The length of the *i* would then have to be analogic. For this one may envisage **g''iĥ₃-* > **g''i-*, which, however, cannot be pointed to in Greek, but also compare κινέω, βινέω, δινέω (p. 248); πίνω (p. 175). Less probable is lengthening in the form **g''i-n-ĥ₃-ō* (compare γένος < **genĥ₁os*,

p. 180). For the rest it is not, of course, certain that the *i* in Mycenaean was already long.

However, up to now this is the only form for which a present ending in *-nōmi* can be demonstrated with a somewhat greater degree of probability.

See App. 3.

XII. INTERCONSONANTAL LARYNGEAL REPRESENTED BY ZERO

The investigation has shown that in some cases the laryngeal was not vocalized where one would expect. It is in itself not strange that the consonantal laryngeal between consonants (and at the beginning of the word before consonant) disappears, as notably in Iranian, see Introduction, p. 9. However, the question is what led to this consonantal laryngeal not being vocalized, as was usually the case. An answer to this does not yet seem possible. However, it may be important to place together the cases that seem to have this phenomenon. They may be divided into three groups.

I Laryngeal at the beginning of the word.

νώροπι, νωρεῖ : ἀνήρ (p. 75 f.)

λοιγός : ὀλίγος (*ibid.*)

μοιχός : ὁμείχω (*ibid.*)

ῥίκατι : ἑρῖκοσι (p. 62)

ὕγιής : ἔυ- (p. 53)

II Laryngeal after *s*-.

μέλδομαι if from **sh₂meld-* (p. 85 ff.)

νεῦρον if from **shn-* (*ibid.*)

ἔλη, φέλα : εἴλη (*ibid.*)

μέρδει : ἀμέρδει (*ibid.*)

ἔρση : ἑέρση (*ibid.*)

III Laryngeal in the middle of the word.

ἱρός < **ish₁rós* (p. 183 f.)

*τολμᾶ from **tolh₂m* (p. 238 f.)

δργή from **uorh₂g-* (*ibid.*)

δρθός from **uorhdh₂uo-* (*ibid.*)

πόρνη from **porh₂nā* (*ibid.*)

πότμος : ποταμός (*ibid.*)

μέζω Myc. *mezoa₂* from **meġh₂iosh₂*

ἄνται : ἄνεμος

ἐντεα from **senh₁-t-*

Some remarks on these forms.

If the first element of ὄγιής was **h₁su-*, there is no trace of the laryngeal in this word. However, this basic form is not certain. Perhaps composition has also exerted an influence here (p. 242 ff.).

The remaining forms of the first group are discussed on pp. 75 ff. and those of the second on pp. 85 ff.

In μέζω the laryngeal seems to have disappeared; Skt. *mahīyas-* indicates that this belonged in the original form of the comparative. There too it could disappear, as emerges from (instr.) *mahnā* < **meǵh₂-mn-* (Introduction, p. 10).

ἄντα· ἄνεμοι, ἀντάς· πνοάς Hsch. will not have to be changed into ἀῆται, since it is given twice in this form. It may therefore go back to **h₂enĥ₁-t-*. Perhaps ἄσθμα also belongs with this in Greek, if it developed from **αν-σ-θμα*. Compare Av. *ąntyą* (*ā + ainti*) as against (Av.) *aini-van-*, and ON *andi* 'breath, spirit'.

ἐντεα, like ἐναπα, is connected by some with ἄνυμι, of which the stem was **senĥ₁-*. This etymology is, of course, no more than one possibility, but this root is most probably found in αὐθέντης and συνέντης· συνεργός Hsch. Here a non-enlarged root **sen-* seems a reasonable supposition, since a relation with the stem of the verb cannot be seen in Greek.

1. THE SO-CALLED APOCOPE

A case of unvocalized laryngeal may perhaps be found in the so-called 'apocope' of the prepositions (Schwyzer, p. 406, Schwyzer-Debrunner, pp. 436-533, Chantraine, *Gr. Hom.*, p. 87 f., Lejeune, *Traité*, p. 193 f., Buck, *Gr. Diall.*, § 95; the last source gives the clearest review of the material on which the following is based).

Apocope is rare in Ionic-Attic, but general in all other dialects. This mainly concerns the forms ἄν and πάρ, while κάτ and πότ also occur, the latter in West Greek usually before dental, often with shortening of the double consonant (or is this only a graphic problem? καὶ τόν, πὸ τόν); especially in Lesbian, Boeotian and Thessalian, but also elsewhere one finds (beside κατ) καδ κακ καγ καπ καβ καρ καλ καμ καν; striking is κανάξαις Hes. *Op.* 666 (cf. Hom. αὐερόω, Arg. ἀφρετεύε < ἄν-φ-, Buck, *Gr. Diall.*, § 55b, cf. Arc. συφοικία). For πεδά Arcadian has πέ. Πέρ is found in Lesbian, Thessalian, Delphian and in proper names in Locrian, Laconian, Messenian and Cretan; Elean has the form πάρ here. The forms ἄπ ὕπ(ῡπ) ἔπ occur almost exclusively in Thessalian (for the rest only Lesb. ἄπ πατέρων Alc., Hom. ἀππέμψει ο 83, ὁββάλλειν T 80).

One gains the impression that the last three forms (ἄπ ὕπ ἔπ) are based on a secondary extension, so that the origin must be sought in ἀνά παρά κατά and ποτί περί. For ποτί, however, allowance must be made for a PIE variant without *i* (cf. **pos*, πος), e.g. Schwyzer-Debrunner, p. 508. In the same way πέρ beside περί is old, *loc. cit.*, p. 499. Here the possibility therefore exists that the forms seemingly affected by apocope in reality go back to parallel forms in the proto-language. In

any case πότ can have developed under the influence of κάτ. If this is correct, the phenomenon would have started from ἀνά παρά κατά.

The apocope has not been convincingly explained. Loss of vowel, however conditioned, is very rare in Greek. The attempt by Szemerényi, *Syncope*, to demonstrate that syncope was not rare in Greek, tends rather to show the opposite. Many of his few examples must be explained differently, while others cannot be afforded much conclusive force. Analogic expansion of the antevocalic form is improbable (as also stated by Lejeune, *Traité*, p. 275, n. 4), since it does not then become clear why only a few prepositions are concerned; in any case, such a development cannot be indicated. Origin in the conditioned shortening (κάτ before τ, ἄπ before π etc.), as Lejeune assumes (*ibid.*, p. 280, n. 1, at least for κάτ and ἄπ ἔπ), which in that case would itself have to be ascribed to a kind of haplology, cannot, even when right for the cases mentioned, be regarded as the origin of the whole phenomenon.

If it is assumed that the phenomenon started from ἀνά παρά κατά, the origin could lie in the -α, of which the origin is not known for certain (see p. 153 and cf. p. 208, n. 103, on ἀνά and p. 208 on ἁμά). If this α developed from a PIE consonantal laryngeal which was vocalized in Greek, one could regard the forms affected by apocope as ones of which the -h₂ was not vocalized. With Aeol. ἶπος the fact tallies that apocope went the furthest in Aeolic. That πεδά, otherwise than in Arc. πέ, was not affected by apocope might suggest that the α was of different origin, e.g. an accusative *ped-η (Schwyzer, p. 622).

The question then arises in which circumstances the laryngeal was vocalized. It seems that Ionic-Attic went the furthest in this. Cf. Schwyzer-Debrunner, p. 491,9: "ist die Form der ältern nicht ion.-att. Inschriften (erst seit der Koine auch παρά; παράχρημα schon in Epid. um 320^a ...)."

However, it is impossible for me further to demonstrate the explanation proposed here. The idea is therefore given only as a hypothesis.

DIALECTAL DIFFERENCES

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The question whether the various dialects went their own ways in the development of the laryngeals, which would therefore show that the laryngeals were preserved down to the individual Greek dialects, should be further examined.

This examination, which is based on the indices of Bechtel, Buck and Scherer-Thumb, *Handbuch der Griechischen Dialekte*, II², 1959, has not yielded any clear indications of dialectal differences. In general the developments discussed above are found in all dialects. For some cases one would like to consider the possibility of a separate development, but the material is too scanty and too diverse to allow of so far-reaching a conclusion.

In the following what may be of importance here will be discussed, first by dialect, without reference to Ionic and Attic, since all data on these have been incorporated above, and then a number of etyma which it seemed better to discuss in themselves.

Figures without further designation in this chapter refer to Bechtel.

1. MYCENAEAN

All data from Mycenaean are in accordance with the rules found above. The principal words of importance may be mentioned here. They are given in the classical Greek form, after Chadwick-Baumbach, *Glotta*, 41 (1963), 157-270, where the individual forms are given.

ἀγείρω ?ἀείρω ἀέξω ἀλείφω ἀλέξω (ἄλεκτρυνών) ἀνήρ, ἐλεύθερος ἐρυθρός ἐν-, ὄνᾱ- (*onato*) ὄνυξ ὄφελος ὀφείλω ?ὄφρῶς; ζέφυρος (*zepu2ro*); ἀλκή ἀργός; ἐρήμος (*eremo*); θυγάτηρ, ἄνεμος ἐρέτης ἱερός, ἄρουρα *λεφοτροχός δίδοτο -δοτος; ταλασία *χάραδρος; τέμενος (-τομος) *ταμιεύς; ?*λεχεστρωτηριον (*reketoroterijo*); στρατός (*tara2to*); *mezoa2*.

2. ARCADO-CYPRIAN

The Arcado-Cyprian material is very scanty.

Laryngeal at the beginning of the word is found in Arc. ὀφέλλονσι (1.334f.), in the middle in Arc. ὀρκόμοτας (1.393), Cypr. ὀμδομοκον (1.434), the latter form with Attic reduplication.

Both dialects have the stem *ppē-* (1.391,403); in Cyprian one finds *κασιγνέτος*. Nothing points to aberrant developments.

3. AEOLIC

Laryngeal at the beginning of the word is found in $\delta\phi\acute{\epsilon}\lambda\lambda\omega$ ($\delta\phi\acute{\epsilon}\iota\lambda\omega$), $\delta\nu\omicron\iota\rho\omicron\varsigma$ (Att. $\delta\nu\epsilon\iota\rho\omicron\varsigma$), Boeot. $\delta\phi\rho\upsilon\gamma\upsilon\tilde{\nu}\tilde{\alpha}$ (from $\delta\phi\rho\upsilon\varsigma$ 1,307), Thess. $\text{?}\omicron\lambda\iota\zeta\acute{\omega}\nu$ (1.209; Hom. B 717).

One finds laryngeal in the middle of the word in $\delta\mu\omicron-$ (1.41, Lesb.).

For $\iota\rho\omicron\varsigma$ (1.56, Lesb.) see p. 184f.

Forms like $\chi\acute{o}\lambda\alpha\iota\sigma\iota$ are probably not of importance to our problem; cf. Bechtel 1.25 ($\chi\alpha\lambda\acute{\alpha}\sigma\sigma\omicron\mu\epsilon\nu$, Alc. LP D 12.10). $\text{?}\omicron\nu$ for $\acute{\alpha}\nu(\acute{\alpha})$ also seems secondary (1.24f.: Hom. $\alpha\upsilon\epsilon\rho\acute{\upsilon}\omega < * \acute{\alpha}\nu\text{-}\phi\epsilon\rho\acute{\upsilon}\omega$). In general Aeol. (and Arc.-Cypr.) \omicron for α elsewhere is not clear, Buck, *Gr. Diall.*, § 5 and 6.

The only thing that points to a separate development is therefore $\iota\rho\omicron\varsigma$.

4. WEST GREEK

In general the Doric forms give the impression that here the same development has taken place as in Ionic-Attic.

As regards laryngeal after vocalic sonant, one could point to $\pi\rho\tilde{\alpha}\tau\omicron\varsigma$. As we have seen (p. 214f.), there is, however, no compelling reason to start from $*\pi\tilde{r}h_3\tau\omicron\varsigma$, so that this form cannot be used as an argument. However, a more difficult case is $\tau\epsilon\theta\rho\tilde{\alpha}\sigma\theta\alpha\iota$, which seems cognate with $\theta\rho\acute{\omega}\sigma\kappa\omega$; p. 216. However, there is no certainty that the word is Doric. For the development of $\tilde{r}h_1$ one can point to general Doric $\phi\rho\eta-$, $\kappa\lambda\eta-$.

For the rest, only the vocalization of the laryngeal requires discussion. For laryngeal at the beginning of the word the following forms point to the expected development: $\delta\phi\acute{\epsilon}\iota\lambda\omega$ (passim), $\delta\rho\epsilon\gamma\mu\alpha$ (Heracl. 'measure of land', cf. $\delta\rho\acute{o}\gamma\upsilon\alpha$, Buck, p. 373), $\delta\lambda\iota\sigma\theta\rho\acute{\alpha}\zeta\omega$ (Corinth., 2.286), $\acute{\epsilon}\kappa\alpha\tau\text{-}\acute{\omega}\rho\upsilon\gamma\omicron\varsigma$ (Megar. 2.203); $\acute{\epsilon}\lambda\omicron\upsilon\theta\epsilon\rho\omicron\varsigma$ (Cret., Buck, § 33a; late Delph. $\acute{\epsilon}\lambda\alpha\upsilon\theta\epsilon\rho\omicron\varsigma$, l.c.), $\acute{\epsilon}\pi\epsilon\lambda\epsilon\upsilon\sigma\epsilon\iota$ ($\acute{\epsilon}\pi\acute{\epsilon}\lambda\epsilon\upsilon\sigma\alpha\nu$ Cret., Buck, § 162.15), $\acute{\epsilon}\rho\epsilon\upsilon\nu\acute{\iota}\omicron\nu\tau\epsilon\varsigma$ (Cret., 2.673). That these forms are small in number is probably a result of the fact that the above handbooks mainly state the forms differing from Ionic-Attic; the list could probably be extended by further research.

However, one finds here a few forms with α where the other dialects have ϵ or \omicron . The clearest is Cret. $\acute{\alpha}\nu\alpha\iota\rho\omicron\varsigma$ $\acute{\alpha}\nu\alpha\rho$ as against $\delta\nu\epsilon\iota\rho\omicron\varsigma$ $\delta\nu\alpha\rho$, Aeol. $\delta\nu\omicron\iota\rho\omicron\varsigma$; see p. 46. Comparable is $\acute{\alpha}\nu\alpha\sigma\acute{\iota}\phi\omicron\rho\omicron\nu$ Phoc. (2.108), beside which, however, $\text{?}\omicron\nu\alpha\sigma\iota-$ occurs. Thus Cretan has $\acute{\alpha}\epsilon\rho\sigma\alpha$ as against $\acute{\epsilon}\epsilon\rho\sigma\alpha$ elsewhere, p. 64. For $\alpha\tilde{\upsilon}\lambda\eta\rho\alpha$ see p. 64 (and for $\epsilon\tilde{\upsilon}\lambda\acute{\alpha}\kappa\alpha$ see p. 40 s.v. $\acute{\alpha}\lambda\omicron\zeta$).

Attic reduplication is found in $\delta\mu\omega\mu\acute{o}\kappa\alpha\mu\epsilon\varsigma$ Cret., 2.755.

For the vocalization of the laryngeal in the middle of the word the widespread stem $\delta\mu\omicron-$ is important. The form $\acute{\alpha}\rho\omicron\upsilon\rho\alpha$ cannot be used very well, since the exact basic form is not known (p. 231).

As the exact explanation of $\beta\acute{\iota}\epsilon\tau\omicron\varsigma$ (Cret., 2.722): $\beta\acute{\iota}\omicron\tau\omicron\varsigma$ is not known (cf. also Buck, p. 167), a conclusion regarding dialectal development of the laryngeal is not possible; if the ϵ goes back to a vocalized \tilde{h}_1 , this shows the expected development also for Cretan.

However, $\dot{\iota}\alpha\rho\acute{o}\varsigma$ remains indisputable (very frequent, can be pointed to in practically all dialects). The form can hardly be explained by a transition $\epsilon > \alpha$ (usually with ρ), for this is not found in all dialects, nor is it constant (Buck, § 12 and 13.1). Aeol. $\dot{\iota}\rho\omicron\varsigma$ as against $\dot{\iota}\epsilon\rho\acute{o}\varsigma$ also suggests dialectal difference. One could only assume that the \hbar_1 before r (ρ , cf. $\epsilon\rho > \alpha\rho$ in *some* dialects), perhaps also through the dissimilatory effect of the ι did not become ϵ but α , but this of course has the weakness of every ad hoc phonetic law.

The form $\acute{\alpha}\rho\acute{\alpha}\omega$, with $\acute{\alpha}\rho\alpha$ - instead of $\acute{\alpha}\rho\omicron$ - elsewhere, would correspond to $\dot{\iota}\alpha\rho\acute{o}\varsigma$: Heracl. $\acute{\alpha}\rho\acute{\alpha}\sigma\omicron\nu\tau\iota$ (2.417), Cret. $\acute{\alpha}\rho\alpha\tau\rho\omicron\nu$ and $\acute{\alpha}\rho\acute{\alpha}\tau\upsilon\omicron\varsigma$, Arg. $\Pi\rho\alpha\rho\acute{\alpha}\tau\iota\omicron\varsigma$ (2.474, 515; from $\pi\rho\omicron$ - $\alpha\rho\alpha$ - cf. Att. $\Pi\rho\omicron\eta\rho\acute{o}\varsigma\iota\alpha$). However, here one can point to comparable interchanges in the present system (Buck § 161.5), $\acute{\alpha}\xi\acute{\iota}\acute{\alpha}\omega$ (Lesb.): $\acute{\alpha}\xi\acute{\iota}\acute{\alpha}\omega$, $\kappa\omicron\iota\nu\acute{\alpha}\omega$ (Thess., Dor.): $\kappa\omicron\iota\nu\acute{o}\omega$, where there can be no question of a laryngeal being a cause of the difference.

It is difficult to draw a conclusion from this survey. Most of the forms stated — among which the development of $r\hbar_1$ ($\epsilon\rho\eta$ - $\kappa\lambda\eta$ -) is very important — display the same development as Ionic-Attic. And yet the exceptions may be of great importance. In this connection two things are striking. In the first place $\dot{\iota}\alpha\rho\acute{o}\varsigma$ is a word that belongs to cultic language, in which archaisms are often preserved. In the second place a relatively large number (but with such scanty material working with percentages may of course be deceptive) of the exceptions occur on Crete ($\acute{\alpha}\nu\alpha\iota\rho\omicron\varsigma$ $\acute{\alpha}\nu\alpha\rho$, $\acute{\alpha}\epsilon\rho\sigma\alpha$; $\acute{\alpha}\rho\alpha$ - and $\dot{\iota}\alpha\rho\acute{o}\varsigma$ also on Crete; $\beta\acute{\iota}\epsilon\tau\omicron\varsigma$). This could be a consequence of the fact that this island (partly through its location) has less intensive contact with the rest of the Greek world (while it is also large enough to preserve a character of its own). On the other hand, one does not easily assume that all forms displaying the East Greek development ought to be ascribed to the influence of other dialects; the whole region of West Greek, as is known, was originally inhabited by tribes speaking East Greek. The conclusion that may be given here seems to me to be the following: the scanty material cannot be taken without more ado as proof of a West Greek development $\hbar_1 \hbar_3 > \alpha$; and yet serious allowance must be made for the possibility of this; a more detailed examination of the oldest material attainable — notably in Crete — is necessary.

The following consideration is of importance to the question whether the laryngeals did not disappear until after the division into dialects. On p. 205 it could not be established whether the development (for instance) $\eta\hbar_2 > mah_2$ took place before or after the development $\eta > \alpha$. If the first transition took place after the second or also, what perhaps is more probable, both occurred simultaneously, this may not have happened until the separate dialects, as emerges from $r > \alpha\rho(\rho\alpha)$ as against $r > \omicron\rho(\rho\omicron)$ elsewhere.

5. MISCELLANEOUS

A word that could point to different developments is $\delta\eta\lambda\omicron\varsigma$. The Hesychius forms with $\delta\iota\alpha$ - (dialectal for $\delta\epsilon\alpha$ -) and the connection with $\delta\acute{\epsilon}\alpha\tau\omicron$ etc. point to an original

*δεαλος, see Frisk. This form certainly belongs to East Greek (Hom. ἀρίζηλος Il., ἔκδηλος E 2, δῆλος v 333, Arc. (conj.) δέᾱτοι). With Skt. *dī-* (Kuiper, *Die Sprache*, p. 7.24) this points to **dejh₂-*. With the latter word one usually connects K 466 δέελος and εὐδείελος, which, with metrical lengthening, is said to stand for *ἐυ-δεελος. The idea that an old suffix variant *lo : elo* forms the basis of this is not plausible, and moreover both **dejh₂lo-* and **dejh₂elo-* would phonetically have given *δεαλο-. Here one could only envisage a Greek replacement of αλο by ελο (just as one finds ερο beside απο). In my opinion a dialectally different development should not be envisaged here, since the two forms evidently belong to the same linguistic region. The question thus arises whether the connection is correct. For εὐδείελος the meaning is by no means certain. Moreover, connection with the Mycenaean place name *eudewero* (PY Ab 02+, *Docs.* 148, 159; cf. Strabo, p. 415 Εὐδείελος as another place name for Aspledon) is self-evident. Δείελος ‘evening’ (v. ap. Frisk) has also been envisaged. The etymology of the latter word is unknown; the explanation **deu-s-* (Frisk s.v.) would be supported by Mycenaean. The form εὐδείελος is in my opinion too unreliable to be used as an argument. I cannot explain δέελος, but one may not attach too much value to this Homeric hapax (in the Doloneia; is it a diektasis of δῆλος?).

If the connection of ἡρέμα (Pl.) with W. *araf* ‘quiet’ and Av. *airime*, *armaē-šad-* (Bartholomae, *IF* 7 (1897) 69f.), Choresmian *arma-* ‘to leave alone’ (Henning, *Zoroaster*, p. 45) is correct, we have here a disyllabic root (**h₂erh₁-m-*). The Hesychius glosses ἄραμεν· μένειν, ἀράμεναι· ἡσυχάζειν would in that case point to α as against ε. The origin of the forms with α is unknown. However, the ending -μεναι suggests Lesbian. It therefore does not seem permissible to attribute the α to a West Greek dialect. The η of ἡρέμα is incidentally also unexplained. For an entirely different interpretation see Frisk s.v. (p. 193).

Miss J. Narten, *III*, 10, p. 247 ff., links the Indo-Iranian words with ἐρωή, OHG *rouwā*. OHG *rāwā* points here to ē, the Greek ē- to *h₁-*, so that one arrives at a basic form **h₁reh₁-*; in that case ἡρέμα can be based only on **h₁ērḥ₁m-*. Ved. *īrmā*, for which Miss Narten assumes the meaning ‘ruhig, still auf der Stelle verbleibend’, may go back to the same basic form as ἐρῆμος (p. 36), **h₁ṛḥ₁m-*. The development of the meaning (> ‘desolate, lonely’) does not seem impossible to me; cf. Chorasmian *arma-* ‘to leave alone’. It then becomes less probable that the Greek forms with double α come from the same root, although the similarity in meaning (both μένειν and ἡσυχάζειν) is striking. Finally, it may be remarked that the words mentioned in Frisk (cf. p. 193) may have the same root with a different enlargement: *h₁r-em-* beside *h₁r-eh₁-* (with *h₁r-em-h₂-* and *h₁r-eh₁-m-*?). Much therefore remains uncertain here.

Another form with unexplained α occurs of the stem ὄνο- (ὄνομαι ὀνόσσομαι, ὀνοσάμην Hom.; ὀνοστός I 164, ὀνοτός Pi.; ὀνοτάζω Hes.). P 25 ὄνατο (preceded by ἀπόνηθ’) and ὄναι· ἀτιμάζεται, μέμφεται Hsch. are unclear. Chantraine’s suggestion (*Gr. Hom.*, p. 295) that ὄνατο could be a sigmatic aorist (*ὄν-σα-) thus presumes a form created on a stem ὄν-. Even more disputed is the form οὐνεσθ’ Ω 241.

CONCLUSIONS

CONCLUSIONS

A. CONCLUSIONS FOR THE LARYNGEAL THEORY

The principal problems of the laryngeal theory, as outlined in the Introduction, are: the number of laryngeals, the question of the positions in which the laryngeals were preserved down to the separate languages and the question when consonantal and when vocalic laryngeal must be assumed for the proto-language.

1. THE NUMBER OF LARYNGEALS

The existence of two laryngeals was regarded as an established fact. Various facts in Greek point to a third, *o*-colouring laryngeal. In the first place the so-called 'prothetic vowel'. It emerged that here $\hat{\epsilon}$ -, $\hat{\alpha}$ - and \hat{o} - occur side by side and that they developed from vocalization of a laryngeal without the environment exerting influence on the timbre of the vowel that developed, so that three laryngeals differing in 'colour' must be assumed. The same development was encountered in the first syllable of Attic reduplication. Between consonants, too, one finds *o*, which may have developed from laryngeal. Here compelling proof was not possible, but in connection with the preceding and the following this view seems the correct one. In the disyllabic roots the type *TeRh₃-C* is poorly represented: here one finds only forms with *ToRe*, which seem to have to be ascribed to metathesis (one expects *TεRo*). There are also a few indications of \hat{h}_3 before vowel at the beginning of the word. However, the most important is the group $\hat{R}h_3$. Before vowel this proved to have become *oR*, whereby the colour of the vowel must be ascribed to the laryngeal. Thus the group *Rω* must also go back to $\hat{R}h_3$ in many cases. The latter assumption is supported by the parallelism of the forms with $\hat{R}h_1$. When these indications are considered the assumption of a third, *o*-colouring laryngeal (beside \hat{h}_1 and \hat{h}_2) becomes inescapable.

Greek gives no hint of a fourth laryngeal. Of course, in practically every chapter unexplained forms remain, but that need not be surprising. The laryngeal theory enables us to solve various questions that have so far remained unanswered, but even after this there will doubtless be a remnant for which we cannot yet give an answer, and perhaps will never be able to either, since we simply do not have enough data. Indo-European linguistics is largely based on the exceptional forms of the various languages that have been preserved as archaisms; however, if these forms become so

exceptional that we have too few of them to discover a pattern of regularity, they stay unexplained. However, this material is of too varied a nature and too small a size for it to be capable of solution by assuming a fourth laryngeal.

2. THE LARYNGEAL PRESERVED DOWN TO THE SEPARATE LANGUAGES

The Introduction mentioned the fact that the laryngeals were preserved down to the separate languages. However, the question is whether this was the case in all positions. A summary will now be given of what the Greek material points to.

As the 'prothetic vowel' is based on a Greek development, the laryngeal must have been preserved down to Greek at the beginning of the word before consonant. However, it cannot be demonstrated that the laryngeal was, on the other hand, also preserved before vowel. This *was* the case before sonant if $\delta\upsilon\eta\tau\omicron$ goes back to $*h_3\eta h_3\tau\omicron$; $*h_2rgr\acute{o}s$ is meaningless, and the same formation with another laryngeal cannot be demonstrated for certain. (If, as assumed on p. 132, the colour of the vowel was influenced by the laryngeal in that case, this must still have been present in Greek.) At the end of the word laryngeal after *i* and *u* must have been preserved down to Greek if Greek here, unlike all other languages, vocalized the laryngeal. After *e* too the laryngeal will doubtless have been preserved until shortly before historical time. On the strength of the Greek material alone it is not impossible that the vocative had lost the laryngeal back in the proto-language ($-eh_2 > -\check{a}$), but for instance the shortening *in pausa* in Indian (p. 145) suggests that the laryngeal after vowel must have been preserved until shortly before historical time. After consonant the only clear case is really the plural of the neuter. Greek does not contain any indication here that the laryngeal was only secondarily vocalized, but in view of Avestan this must have been the case. The only instance I know of laryngeal after sonant is the very uncertain $\acute{v}\acute{e}k\tau\alpha\rho$ (p. 160f.).

The possibilities in the middle of the word are greater. I see no indication that the laryngeal in the positions after vowel before consonant (*VHC*), between vowels (*VHV*) and after consonant before vowel (*CHV*) was preserved down to Greek (for the last two cases this is probable on the strength of Indo-Iranian, see Introduction, p. 9f., point 6b and a). However, the laryngeal before vowel after vocalic sonant (*RHV*) must have been preserved in Greek, in view of the laryngeal umlaut. Interconsonantally $h_1 > \epsilon$ $h_3 > o$ indicates that the three laryngeals preserved their 'colour' down to Greek; since the other languages have *a* here (Ind.-Ir. *i*), these vowels must first have developed in the separate languages from the laryngeal. Before consonant after vocalic sonant (*RHC*) the laryngeal must have caused the developments $R\eta$ $R\bar{u}$ $R\omega$, developments which cannot have taken place until Greek.

It can therefore be demonstrated that the laryngeal both at the beginning of the word (*HC*, $?HR$), and at the end (*i/uH*) and in the middle (*RHV*, *RHC*, *CHC*) was preserved down to Greek. It is perhaps worth while combining these data with those of Indo-Iranian and Hittite.

(Gr. etc. means preserved down to Greek etc.)

<i>HC-</i> Gr., Arm. ¹ , Ind.-Ir. ² , Hitt. ³	<i>VHC</i>
<i>HR-</i> ? Gr., ? Hitt. ⁴	<i>RHC</i> Gr., Ind.-Ir. ⁸ , Lat. ⁹ , Celt. ⁹
<i>He-</i> Hitt. ⁵	<i>VHV</i> Ind.-Ir. ¹⁰
<i>-CH</i> Gr., Ind.-Ir. ⁶	<i>RHV</i> Gr., Ind.-Ir. ¹¹
<i>-RH</i>	<i>CHV</i> Ind.-Ir. ¹² , Hitt. ¹³
<i>-i/uH</i> Gr., Ind.-Ir. ⁷	<i>CHC</i> Gr., Ind.-Ir. ¹⁴
<i>-eH</i> Ind.-Ir. ⁷	

1. the prothetic vowel in Armenian. 2. lengthenings of the type *sūnāra-*. 3. *h̥anteš*. 4. *harki-*. 5. *hanti*, *haštai-*. 6. Av. */manāh/* < **menēsh₂* as against Ind. *mānāmsi*. 7. shortening in pausa. 8. laryngeal umlaut in *ir* and compositional shortening. 9. *Rā*, with a development of *R* different from that in another position. 10. hiatus. 11. laryngeal umlaut in *ir*, *im*. 12. aspiration and the explanation of the apparent exceptions to Brugmann's Law. 13. prevention of assibilation (*-th₂i* > *-ti*, not *-zi*). 14. Ind.-Ir. *i* as against *a* in the other languages and the interchange *i/zero*.

There are thus very numerous indications that the laryngeals were preserved down to the separate languages, so that one should instead ask oneself whether there is in fact any reason to assume that this was *not* the case in some position or the other.

3. THE VOCALIC LARYNGEAL AND THE VOCALIZATION OF THE CONSONANTAL LARYNGEAL

The most difficult question is that concerning the relation between the vocalic and the consonantal laryngeal and that regarding the secondary vocalization of the consonantal one. One derives the impression that secondary vocalization was nowhere as intensive as in Greek. For instance, it was stronger than in Indian, since Greek vocalized the laryngeal before consonant at the beginning of the word, and also the laryngeal at the end of the word after *i* and *u*. It was not vocalized at the beginning of the word before vowel (*HV-*, also before *i* and *u*), at the end after PIE *e*, and in the word after vowel before consonant, after consonant before vowel and between vowels; in these positions vocalization is in addition hardly imaginable. At places where a consonantal laryngeal could be vocalized one only rarely finds that the laryngeal has disappeared (ἵρος, *τόλμᾱ etc., p. 254f.). This is also rare in Indian. The question therefore arises when vocalization took place and when it did not. At present a satisfactory answer cannot be given to this question, neither for Greek nor for Indian.

As a result, it is difficult to decide on the strength of Greek whether one is concerned with a consonantal or a vocalic laryngeal of the proto-language. For the number of cases in which a consonantal laryngeal that could have been vocalized has disappeared is very small. Consequently, in by far the majority of cases one finds in Greek a vowel, but this can stand for both *h* and *h̥*. Here only the comparison with the other languages can supply an answer.

B. SUMMARY OF THE GREEK DEVELOPMENTS

Perhaps it is useful after the fairly detailed treatment of the material to summarize once again what the laryngeal theory means to Greek. The stress should be laid on

the simplicity of the conception and the possibility of using the theory to solve various problems in the development of Greek practically without further hypotheses.

Greek suggests that the proto-language had three laryngeal phonemes; these were usually consonantal, but could also be vocalic; that is to say

$$\hbar_1/\hbar_1 \quad \hbar_2/\hbar_2 \quad \hbar_3/\hbar_3$$

These phonemes are no longer present in historical Greek. In principle their original presence is still perceptible in colouring (to *e*, *a* and *o* respectively) of neighbouring vowels (except *o*), either original vowels or ones which developed later, or because they themselves became *ε*, *α* or *ο*. The vocalic laryngeals could not become other than vowels; the consonantal ones were usually vocalized but seem to have disappeared in a few cases where they could also have been vocalized.

The colouring of adjacent full vowel is found in every language, so that here there is nothing specific to be found for Greek. Before consonant the laryngeal disappeared with lengthening of the preceding vowel, as in the other languages.

The so-called 'prothetic vowel' is based on vocalization of a consonantal laryngeal. This is also found in Attic reduplication, e.g. **h₁le-h₁loudh-* > *ἐλλουθ-*, where an auxiliary hypothesis is necessary to the extent that one must assume that the two first consonants were repeated in the reduplicative syllable. At the end of the word after *i* and *u* the consonantal laryngeal was most probably also vocalized.

It is often impossible to make out whether a vowel goes back to a consonantal or to a vocalic laryngeal (*πατήρ*, *ἄνεμος*).

It seems probable, though it cannot be demonstrated for sure, that the colour of the (PIE) reduction vowel which was separated by sonant from a following laryngeal was determined by this laryngeal (*εrh₃* > *opo*). However, such a laryngeal umlaut is certain in the group *RHV*, in which *Rh₃* became *op* and *Rh₁* became *εp*. The same colouring of a developing vowel is found in *RHC* (*Rh₃C* > *Ro₃* > *RωC*). This development is found not only in the disyllabic roots but also in the element *νη-* *vā-vō-* of some negative adjectives (that must go back to **η-hC-*). However, once again the development of *HRC* is not certain; here too, though, colouring by the laryngeal is to be expected.

One thus finds the colouring in the following groups:

still in PIE	<i>VH</i>	<i>HV</i>	<i>VHV</i>
in Greek	<i>RHC</i> > <i>R_εHC</i>		
	<i>RHV</i> > <i>εRHV</i>		
	<i>εRH</i>		
	? <i>HRC</i>		

All the fundamental points in the laryngeal theory that are of importance to Greek have now been given. The author hopes that this study has demonstrated the correctness of these points, without all too great inaccuracy in the details.

APPENDICES

APPENDIX I

AGAINST SZEMERÉNYI

In a recent article (*Phonetica*, 17 (1967), 65-99) Szemerényi attacks the view that PIE had more than one laryngeal and the assumption on the strength of this view of a language with only one vowel. Some points may be discussed here.

The article consists of two parts, the first of which deals with the matter of whether a language with one vowel is possible. With regard to the possible parallels in the Caucasian languages he states (p. 74f.): "The fact (!) that, as against the general pattern observed in all the languages of the world studied so far, one or two or even half-a-dozen exhibit a deviant, abnormal pattern will not be regarded as sufficient justification for admitting the deviant pattern as a support for a reconstruction of the deviant type." However, in my opinion it cannot be denied that the counter-argument that such a type of language is not demonstrable would then cease to apply. After his finding (p. 87) that the reconstructed system "is almost identical with that of Ubykh", his conclusion (*ibid.*) "that such a picture is quite unrealistic and is to be rejected" consequently does not seem justified.

However, it might be as well to point out that the interpretation of the data of the Caucasian languages is not yet sufficiently certain. At present we may confine ourselves to saying that there are scholars who assume that certain languages have two vowels, one or even none. But even if a language with fewer than three vowels could not be designated anywhere, the reconstruction by historical linguistics cannot be rejected, unless it can be demonstrated at which point in the reconstruction a mistake has been made. As long as it is assumed that the method of reconstruction is reliable, one can only allow oneself to be guided solely by these reconstructions themselves if one wishes to form a picture of PIE. In general it has been realized that the progress of science is repeatedly checked by denying or ignoring exceptions to what were thought to be rules of universal validity. It is, of course, quite legitimate to query the results, and this may lead to a critical look at the *method* of linguistic historical reconstruction, but as long as this critical study has not demonstrated any errors in the method, one cannot do otherwise than follow the old method. Szemerényi rightly states: "The question cannot be answered on *a priori* grounds, only empirical facts can help us to decide it". However, historical reconstruction is also

empirical. That is what Szemerényi does not realize with sufficient clarity in the first part.

Before considering the second part, a few remarks will be made. It is of essential importance to realize that we are speaking here about *Pre-PIE*. For it seems that in the case of PIE, the linguistic stage found by direct reconstruction from the historical languages, the vowels *e o a i u* have to be assumed. But there are also indications that in an *earlier* stage *a* was not a phoneme and that *i* and *u* were allophones of *i̥* and *u̥*. It follows from this, for instance, that the words mentioned by Szemerényi with *a* in the stem do not form a decisive argument. If it proves that we are concerned here only with a score of words standing alone, while the *a* has no further function in the system of the language, it seems justifiable to conclude that the *a* did not originally belong to the linguistic system, and that the words mentioned are borrowings or must be explained in some other way.

The same applies to Szemerényi's treatment of *i* and *u*. He states that *i* and *u* were independent phonemes and not only allophones of *i̥* and *u̥*. If that were correct, there would not be the slightest problem for the vocalic system, which would then have been *i - e - u* (or *i - a - u*, because in that case it is immaterial whether one writes *e* or *a*), for this is "the usual triangle type (*u, a, i*)". However, here too it is true to say that it is possible that in an *earlier* stage of PIE *i* and *u* did not occur as vowels. It must be borne in mind here that it is, of course, impossible, assuming that the theory was correct, to demonstrate for all cases that the *i* and *u* developed in the zero grade of *eī(iē)* and *eu(uē)*. But conversely one may not conclude from the fact that we cannot demonstrate this that the theory is incorrect.

The second part is largely based on theoretical considerations. On the strength of Jakobson's Law: "languages possessing the pairs voiced-voiceless, aspirate-non-aspirate, have also a phoneme /h/", Szemerényi assumes a phoneme /h/ for the proto-language, which he then calls laryngeal. This is, of course, legitimate as a working hypothesis, but one must bear in mind that the fact has then still to be proved.

Furthermore, on the strength of the considerations in the first part, Szemerényi proceeds from the existence of *a, e* and *o* (beside *i* and *u*) in PIE. This too is acceptable as a working hypothesis, provided that it is realized that this does not refute the entire argumentation for the laryngeal theory.

Szemerényi states that it is not necessary to assume more than one laryngeal, since *eh, ah, oh* explain the later forms *ē, ā* and *ō* just as well as *eh₁, eh₂, eh₃*. However, in his view there are also long vowels *ē, ā* and *ō* that do not go back to short vowel + laryngeal, so that for PIE the long vowels *ē, ā* and *ō* must be assumed too. Szemerényi bases this on cases like Hitt. *paḥš-* : Lat. *pāscō* as against Hitt. *paš-* : Lat. *pōtare*. This assumption is thus founded entirely on the Hittite data: "Surely, the only real evidence that we possess is afforded by the Hittite evidence with *h*" (p. 91 f.). Two comments may be made about this. As already stated in the Introduction (p. 6), it seems dangerous to me to take only Hittite as a basis. For it is quite possible that a

more thorough knowledge of Hittite would lead to a different explanation of the apparent exceptions. In the second place there are also other criteria than the Hittite material. The apparent strength of his theory lies in the fact that he proceeds from one language only, namely the one that offers other scholars the most difficulties, and ignores the other data.

Further, he is of the opinion that the assumption that \hbar_1 has disappeared in Hittite is in contradiction with the forms with $\hbar e$ -. He believes that he can solve this by assuming that (his one) h was preserved. However, this too is a solution in appearance only, owing to the fact that Szemerényi takes the facts of just this one language as a basis. The difficulties occur when one combines the data of the different languages. If one assumes, for instance, that Gr. ἔεργη goes back to $*\hbar yers$ -, then Hittite proves to have no \hbar ($\hbar ar\check{s}a$ -, p. 93), while $\check{a}esa < *\hbar yes$ - in Hittite does have \hbar ($\hbar u\check{i}\check{s}zi$). I do not see how Szemerényi can explain this difference. I admit that the Hittite material summons up a number of questions and I therefore fully agree with Szemerényi that further research is called for here. However, in that case it is the question whether one may base such far-reaching conclusions on it at the present stage.

He gives two interpretations of the vocalic representation. According to the first one (p. 90) an anaptyctic vowel developed after the h , whereupon the h disappeared ($ChC > Ch_eC > C_eC$). The second is based on the assumption that PIE also had long vowels with a zero grade \bar{a} , i.e. for instance \bar{a}/\bar{a} . He established the connection with our problem as follows: "It was this type which attracted the laryngeal type so that their nil-grade, H , became $\hbar a$, later \bar{a} ". Both explanations presuppose in any case that after the h a vocalic element came. He states then: "At long last, we get a better purchase for the understanding of the development of the nil-grade of long vowel roots" (p. 92). I do not see where the progress lies. In my view he is returning to Kuryłowicz' view (of 1935); see p. 94 of this book.

His assertion that the mediae aspiratae are often explained from media + laryngeal is not essential. However, he does not clearly state that this applies only to Indo-Iranian mediae aspiratae (as his example Skt. *aham* : Lat. *ego* indicates). His thesis that the mediae aspiratae were diphonemic in an earlier stage of the proto-language is therefore not based on the slightest concrete indication.

In the following eight lines (p. 92.4) the tenues aspiratae are reinstated. The only basis for this is the finding that every language that has a dh beside t and d also has a th . This too is an *aprioristic* use of an *empirical* datum and so is not binding. Szemerényi fails to give series of correspondences by which these phonemes are determined.

Szemerényi concludes by remarking that he has seen no reason for assuming more than one laryngeal. Reference may be made here to the Greek material; three laryngeals are suggested above all by the "prothetic vowel", Attic reduplication, the triple reflex and the development of the group sonant + laryngeal (e.g. $\check{r}\hbar_1C > \rho\eta$, $\check{r}\hbar_2C > \rho\bar{a}$, $\check{r}\hbar_3C > \rho\omega$ in the disyllabic roots and in $v\eta$ - $v\bar{a}$ - $v\omega$ - of the negative adjectives, and $\check{r}\hbar_1V > \varepsilon\rho$, $\check{r}\hbar_2V > \alpha\rho$, $\check{r}\hbar_3V > \omicron\rho$ in the thematic aorist). Szemerényi dismisses all this with a reference to Kuryłowicz' view in *Apophonie*, the correctness of which was disputed above.

To sum up, one may say the following. Szemerényi's set-up is aprioristic, which is most clearly evident in the acceptance of the *tenues aspiratae* for the proto-language. Here he even makes no attempt to verify the theory against the facts. His denial of the existence of three laryngeals is based on the fact that he only incorporates a few Hittite data, but leaves others, notably the Greek, out of consideration. It is permitted to bring forward a theory without working it out entirely, if such an idea was not yet known, but it is *not* permitted to reject an existing theory that has far-reaching consequences without discussing all the problems involved. Szemerényi's procedure is in accordance with the fact that, on the point of the possibility that a language with only one vowel could exist, he states that he does not wish to be guided by the facts.

APPENDIX II

N 707: τέλσον AND ὄλκα

I have changed my opinion about ὄλκα, discussed on p. 40. I may treat this problem at some length in its context. For the sake of convenience the relevant text may be given here:

- 701 Αἴας δ' οὐκέτι πάμπαν, Ὀϊλῆος ταχὺς υἱός,
ἵστατ' ἀπ' Αἴαντος Τελαμωνίου, οὐδ' ἠβαιόν,
ἀλλ' ὥς τ' ἐν νειῷ βόε οἴνοπε πηκτὸν ἄροτρον
ἴσον θυμὸν ἔχοντε τιταίνετον· ἀμφὶ δ' ἄρα σφι
705 πρυμνοῖσιν κεράεσσι πολὺς ἀνακηκίει ἰδρώς·
τὸ μὲν τε ζυγὸν οἶον ἐύξοον ἀμφὶς ἐέργει
ἱεμένω κατὰ ὄλκα, τέμει δέ τε τέλσον ἀρούρης·
ὥς τὼ παρβεβαῶτε μάλ' ἔστασαν ἀλλήλοιν.

The article by V. Pisani, *Athenaeum* N.S. 18 (1940) 3-10, on the subject may be the starting-point. His argumentation is this. Stating that PIE *ls* between vowels did not remain in Greek and noting that a suffix -so- is rare, he argues that N 707 is the oldest context for the two words (which may well be right; the other occurrences are for τέλσον Σ 544.547, for ὄλκα σ 375). For τέμει δέ τε τέλσον ἀρούρης he compares Hdt. 4.136 τετμημένων τῶν ὁδῶν, Plat. *Crit.* 118 E διάπλους ... πρὸς τὴν πόλιν τεμόντες, etc., and concludes that it can only mean 'scava il solco della terra'. In that case ὄλκα could not mean 'furrow' and, accepting its connection with Lith. *velkù*, he maintains that "l'(<*)ἀφολξ lungo o durante il quale i buoi si sforzano, non è altro che il *trahere* dei buoi stessi, la loro azione di tirare l'aratro."

There are objections to this view. First it seems improbable that *ἀφολξ designates 'the action of drawing' rather than a concrete object. Secondly, κατὰ would be difficult: it is never used in a temporal sense in Homer and I find no parallels to show what κατὰ ὄλκα could mean otherwise (LSJ s.v. and Chantraine, *Gr. Hom.* II, p. 114f.). Thirdly it is assumed that τέμει contains the same root as τέμνω. This is not impossible, but Monro's suggestion that it is a present with the same root as ἔτετμε 'he reached' deserves at least consideration. But most important is that Pisani rejects the value of the gloss τέλσας· στροφάς, τέλη, πέρατα Hsch., p. 3 n. 1:

“il significato che Esichio attribuisce alla parola è, a ogni modo, secondario.” I see no ground for this assertion. On the contrary, since we do not have here the same word as in Homer, and since it is improbable that Hellenistic *poetae docti* or grammarians would have created τέλοσᾶ, τέλοση, it is much more probable that we have here an independent piece of evidence for the meaning of τέλοσ-ον, -η.

A suffix -σο- may be rare in Greek, but morphologically there is nothing against assuming a derivative from τέλος (cf. Skt. *vātsa-* against *ῥέτος*). Phonetically the development of *ls* is not clear. Lejeune, *Traité*, p. 107, states that it is retained, but his examples are ἄλσος and τέλοσον, of which ἄλσος is of no use since its origin is unknown, and τέλοσον is the word under discussion. On p. 108, moreover, Lejeune gives instances in which the *s* is lost, instances which can hardly be dismissed.¹ On the other hand we may expect the same treatment as for *rs*, and there are clear cases in which we find this group preserved, e.g. ἐέρση, κόρση; so *ls* might be retained as well in some circumstances.² In any case, as the question is not definitely settled, the possibility that *ls* remained cannot be excluded. (One is reminded of the problem presented by ἀπόλλυμι, etc., Lejeune, *Traité*, p. 133.)

Now when τέλοσον is ‘turning-point’, τέμει is probably ‘reaches’. Then there is the question of what ὄλκα means. F. Solmsen, *Unters.*, p. 258 ff., treated the form: the hiatus in κατὰ ὄλκα suggests ɸ-, but *ɸολκα is impossible, since this would have been shortened to *φολκα. We must therefore assume *ἄφολκα [the other possibilities, *ῥασολκα/ῥα Joelka < **ṛsolk-/ṛe iolk-* or **ṛh₂esolk-/ṛh₂e iolk-* giving very unusual structures, if the word is IE]. This form was contracted in the living language to ὄλκα, which was introduced into κατ’ ἄφολκα, while — as the metre was then disturbed — κατ’ was replaced by κατά, despite the hiatus. What is the meaning of the word? As it may be cognate with Lith. *velkù* ‘to draw’, I thought of ‘the thing drawn = the plough’ (cf. ἄλοξ ‘furrow’ — εὐλάκᾱ ‘plough’, OE *sulh* (< **s₁lk-*) ‘plough, furrow’), which would give us a subject for τέμει (see Leaf ad loc.), but then κατά makes no sense. We should therefore retain the old explanation ‘the thing drawn = the furrow’. (For the use of κατὰ cf. O 682 καθ’ ὁδόν, Z 391 κατ’ ἀγυιάς etc. and specially A 68.)

As *ἄφολξ may safely be considered cognate with Lith. *velkù* etc., the PIE root had the form **h₂uelk-*. This is the relevant point for this book, and the form *ἄφολκ- should be added on pp. 56-8 and p. 69. Beside it there was **selk-* with the same meaning (‘to draw’), see e.g. Frisk s.v. ἔλκω. Though this is remarkable, we should not be embarrassed by such phenomena. There are many comparable things in the living languages, and there is no reason why PIE should not have had them.

As to *ἄφολξ itself, the form may be either a nominative with *o*-vocalism, **h₂u₁olk-s* (cf. p. 89 on ἄλκ-ή) or a zero grade, **h₂u₁lk-*, in which we might expect αλ/λα or

¹ Xείρ is not relevant, since it is derived from **ghesr-*, as Hitt. *ki-eš-šar* ‘hand’ proves (see for instance Schmitt, *Igd. Dichterspr.*, p. 145 ff.).

² It seems most probable that there is a chronological difference, the words with ɸσ looking like relics. In some cases analogy may of course have played its part.

Aeolic ολ/λο from *l*. About the other forms, ἄλοξ etc., uncertainty remains. Αὔλαξ may also represent **h₂ul̥k-*, but the ε- of εὐλάκᾱ, the ο- of ὄλοκες (and in -ωλακ-), the χ in αὐλάχᾱ, and ἄλοξ itself would be irregular. Cf. beside Frisk s.v. ἄλοξ also Buck, Gr. Diall., p. 51.

I may take the opportunity to make a few remarks on the relevant passage in N. Firstly, the verse N 707 is a fairly old one, because it contains two words that occur nowhere else, τέμει and ὄλκα (Pisani rightly points out that the author of σ 375 probably connected τέμει with τέμνω, because he writes εἰ ὄλκα διηνεκέα προταμοίμην). The simile is made to describe the Αἴαντες, which are not the two heroes called Ajax, but the two sons of Telamon, as Wackernagel demonstrated (see e.g. D. L. Page, *History and the Homeric Iliad*, p. 236f.); the simile could therefore be as old as the original use of this dual. We then observe the excellent rhythm of the line, all major incisions of which coincide with the important caesurae: the trithemimeres, the trochaic caesura, the hepthemimeres and the bucolic caesura. However, at the same time it has one of the extremely rare violations of Hermann's Bridge, though it will be agreed that δέ τε go closely together. Are we to conclude that this refinement was later observed more strictly? Cf. the Add. to p. 66.

As regards metrics, in vs. 705 three things may be noted. First the third element is long through v-movable, which is not an old trait (see Hoekstra, *Mod.*, pp. 71-111). Secondly the last syllable of πολὺς, though followed by a vowel, is counted long, and thirdly the ʔ- of ἰδρῶς is not observed. The last two facts can both be accounted for by comparing Ψ 507, where the second part runs: πολὺς δ' ἀνακῆκιν ἰδρῶς. Not only does the problem of πολὺς not exist here, but it may also be reasonably supposed that the v-movable was introduced here only when ʔ- had disappeared. For the last point we must also compare Λ 811 Ψ 715 κατὰ δὲ νότιος ῥέεν ἰδρῶς | (of which Ψ 688 ἔρρεε δ' ἰδρῶς | is reminiscent). Here too it is probable that the formula originally had ʔ-, not the v-movable. I state this rather circumstantially because Chantraine, *Gr. Hom.*, p. 156, finds difficulty with the fact that there is no trace of ʔ-, and even supposes that there might have been a PIE by-form with s- (instead of sʔ-); thus Frisk (s.v. ἐμέω, to which he refers s.v. ἰδρῶς) says: "Das Fehlen des Digamma bei Homer ist nicht befriedigend erklärt." Now not only are there traces of ʔ-, but even if there were not, there would be nothing to be explained: in the last phase of epic poetry ʔ- had disappeared from spoken language, and though many traces of its original presence have been preserved in traditional formulae, it is only natural that there are as many or more cases where this ʔ- is absent. To be clear, N 705 is an adaptation of the formula found in Ψ 507, and the only difficulty is πολὺς (the author simply could not use δέ and left it out, not considering the metrical difficulty serious enough to remedy it), for in ἀνακῆκιν ἰδρῶς there was no problem for him. (It may be noted that the two formulae do not date back to the oldest phases of epic poetry, since ἰδρῶς originally had sʔ- (cf. OHG *sweiz*), of which the expected 'ʔ-' would have lengthened a preceding short vowel (as for instance **ʔh₂n*, see p. 61); for ἰδρῶς see besides Frisk also G. R. Solta, *Die Stellung d. Armenischen*, p. 61 f. with n. 60.)

An old element may be seen in βόε οἴνοπε (where ʔ- is observed), since we found Myc. 'Woino^uks' as the name of an ox.

As regards ἀμφὶς ἐέργει (706), Pisani rejects the explanation 'hält auseinander', and thinks that the yoke 'constringe da ambedue le parti'. I think οἶον is against this (it would be meaningless).

We have then all in all a typical situation: some stray old elements, a whole old verse, of which the meaning was soon no longer understood, together with contemporaneous elements of the last phase of epic tradition (the loss of ʔ- in 705), the whole a picture full of interest and force, culminating in the last half verse (707): the reader (listener), whose sympathy for the labouring bulls was aroused by vs. 705 and who sees the animals "struggling along the furrow", is told in few words, added paratactically — which adds to the directness — that, notwithstanding (δὲ) the fact that the work is terribly hard (depicted in the heavy word (ʔ)ἰεμένω at the beginning of the line), the plough, as you will have seen yourself happening so many times (τε), *has* not reached, but *is reaching*, is busy reaching (the present τέμει) its goal, and then, at the climax, or rather just before reaching the climax, before suspense would be broken, we are suddenly returned from this peaceful toil to the battlefield: a simile well worthy of 'Homer.'

APPENDIX III

STRUNK, NASALPRÄSENTIEN UND AORISTE.

The problem of the nasal presents of set roots is treated by K. Strunk, *Nasalpr.*, pp. 21-59. As many points are of interest to our study, I may make some brief comments on them.

Of importance is his argument that nasal presents of the type *TR-n-eH-mi* have a root aorist *TR(e)H-*. To my list on p. 226 should be added: *ἔβλην, found in ξυμβλήμεναι Φ 578, ξυμβλήτην (3. du.) φ 15, βλείης (2. sg. opt.) Epich. Fr. 219 (Kaibel), βλείς (ptc.) id. Fr. 176 and ἔβλη EM 199,55 (o.c., p. 45); apart from κατέβρω there is ἔβρω Call. hy. 1,49 and ἔβρω· ἔφαγεν, ἔδακε, διέσπασε Hsch. (o.c., p. 48). This confirms my view that ἔτεμε cannot derive from an aorist *ἔ-temh₁-t. The same situation occurs with the presents in -n-eu-mi, which also had a full grade II aorist (Skt. *ásrot* < *ἔkleut, ἔσσευα < *ἔkieuṃi); there are no aorist roots of the type *φερυ-, *φελυ-. (Of course I do not agree with the statement (p. 43f.) that βλήτο etc. have “starre VS [Vollstufe] II”.)

However, Strunk holds that the Sanskrit aorists of the type *astarīs* are originally athematic, referring to J. Narten, *Die sigmatischen Aoriste im Veda* (Wiesbaden, 1964). It may be right that the type *astariṣam* has been built on the athematic aorist, which is why the root has no lengthened grade. If so, my remark on the subject on p. 227 should be deleted. Strunk tries to show that these aorists are innovations, to my mind not very convincingly (pp. 49-54). The idea that these are old imperfects (p. 52) seems to me more probable; cf. p. 224 ff. (of this book) on some Greek (thematic) aorists.

It may be useful to point out that, even if aorists with roots of the type *TeRH-* occurred, it is improbable that ἔτεμον was derived from *ἔ-temh₁-. If the full grade form of the singular of the athematic aorist was transformed into another aorist type within Greek, we might expect, parallel to *ἔ-temh₁-t > ἔτεμε, from *ἔkemh₂-t > *εκεμα, which would have become a ‘pseudo-sigmatic’ aorist of the type ἔχευα; as this does not occur, the first development (*ἔ-temh₁-t > ἔτεμε, which would have been the starting-point of the thematic aorist) is also improbable. If one explains ἔτεμον from *ἔ-temh₁-om, we would also expect *ἔκεμον < *ἔkemh₂-om; as the latter is not found, the first development is also improbable. Perhaps the type *ἔkerh₂-t > *εκεπα was transformed into a s-aorist, ἐκέπασα; in that case we would

expect from **é-temh₁-t* a form **ἐτέμεσσα* (as in ἀπ-έμεσσε). I see no way to prove or refute the last assumption. To my mind, then, even if there were aorist roots of the type *TeRH-*, they were not the starting-point for *ἐτεμον*. (Cf. also p. 224 n. 111.)

By way of criticism I must say that I do not think that the fact that nasal presents have root aorists is as important as Strunk holds. The only other possible type is a *s*-aorist, and it has not been shown that this type is not old with these presents; for thematic aorists are probably all recent and derived from athematic ones, as Strunk admits on pp. 97-100. (I consider the theory of **lik^e-* as a variant full grade II (II'), with an old present **li-n-k^e-ti* and aorist **e-lik^e-t*, very improbable, because such root structures (ending in a vowel) are otherwise unknown in PIE (*o.c.*, p. 32 f.).)

Strunk too interprets βάλλω as thematization of a nasal present, on morphological grounds (the parallel with κάμνω etc.). He too therefore allows presents in *-nēmi* and *-nōmi*. See his review of the problem, p. 56-9. His most important argument seems to me Skt. *pr̥ṇīhi*, which is cognate with ἔπορον and therefore indicates **pr̥-n-eh₃-mi*. As for *pr̥ṇāti* compared with *pr̥ṇāti*, he too holds that the first form "darf ... als typologisch jünger gelten" (p. 57).

As regards *πρίατο*, Skt. *kr̥ṇāti*, I may stress the fact that **k^uri-n-eh₂-* is an unusual structure, as is a root **k^urie_h₂-*. It might be useful to distinguish between the behaviour of three- and four-consonant roots (**krem_h₂-*, **dh_uen_h₂-*).

I am not convinced by the reasoning that *ἐκίον* represents **ék_iom* (p. 101 f., especially n. 281): I do not see why in the stage of development of which we are speaking the form *σν-* would not have acted upon **k_iu-/k_iu-*, and — which is more essential — I do not believe in the automatic distribution of syllabicity which would produce **k_iu-*. Edgerton's laws do not explain all problems; things are more complicated.

Two important points may be further noted.

Strunk thinks (p. 72 ff.) that the types *τανύω tanóti*, *ἄννυμι sanóti* derive from **t_hn-eu-* etc. This cannot be correct since this development is impossible for Greek. A form **t_hne_u-* would have given **ταννυ-*, because a vocalic sonant before another (consonantal) sonant develops into *VR*: *θαρνέυει* < **d_hr̥-n-eu-*, *χαίρω* < **gh_{r̥}-i-*, *ιοχέαιρα* < **-χες_gρα* < **is_ho-ghes_r-i_h₂*, *βάλλω* < **g^ul̥-n-*, *μαίνομαι* < **m_h-i-*, *βαίνω* < **g^uh̥-i-*, *δάμνημι* < **d_hm-n-*, *κάμνω* etc. (**τομν-* < **t_hm-n-*, see p. 223). It may be pointed out again that there is a difference between *ḡn* and *ḡn*, and that confusion can arise from the fact that some scholars use *ḡn* in the function of *ḡn*. There is no reason why *-avv-* should have been reduced to *-av-*; compare Aeolic (?) *δίννω* (Hdn.), and (much more recent) *κεράννυμι κορέννυμι*. On the necessity of assuming structures of the type **t_ene_u-* see p. 236. (The form *ἄχευ-* may be derived from **h₂eghe_u-*. I am not convinced that there could not be a second present beside *ἄχυνμαι* < **h₂gh-n-u-*, and I am also not convinced that Hom. *ἄχεύων* can be better understood as aorist: with E 869 *καθέζετο θυμὸν ἄχεύων* | we may compare *καθέζετο κύδει γαίων* | (A 405 E 906 Θ 51 Λ 81), and in five out of eleven occurrences of *ἄχεύων* we have *ὀδυρόμενος καὶ ἄχεύων*, I 608 Ω 128 β 23 δ 100 ξ 40.)

Strunk's interpretation of Greek στρατός (p. 111) is entirely unacceptable to me. He discussed it at great length in Münch. Stud. z. Sprachwiss. 17 (1964) 77-108. It may be discussed in greater detail, because Strunk gives his treatment as an example of a good etymology, while it is to my mind a forced one, and because I see (November 1968) that Frisk seems to be influenced by him and considers the question to be undecided, while I think it is perfectly clear. It is to be regretted that we have repeatedly to fight for results obtained long ago.

Strunk holds that Skt. *styta-* can only mean 'niedergestreckt, besiegt', that this is the original meaning of the anīṭ form of the root **ster-(h₃-)*, and that στρατός developed either from **niederstreckbar* > **Feindesheer* > *Heer* or, with active meaning of the adjective in *-tos*, from **Niederstrecker*.

This semantic development may not be quite impossible, but I know of no parallel, while the old interpretation ('Feldlager' > 'Heer') has many parallels (Strunk, p. 78f.: στατόπεδον, Byzant. φοσσᾶτον etc., Dutch *leger*). I do not see what reality there is in the suggestion (p. 79) that these developments "viel späteren kriegstaktischen Vorstellungen entwachsen sein dürften." The statement that the meaning 'Feldlager' must be demonstrable in the case of στρατός before we could assume the same development here must, of course, be rejected. It would be irrefutable evidence, but the interpretation would remain just as possible if we could *not* point to this meaning.

As it is, there are cases in Homer where στρατός means 'camp'. Strunk admits this (p. 80, 86), but rejects these cases as secondary. This is all the more unrealistic since there is as strong confirmatory evidence as one could wish that this is the *oldest* meaning. Let me give Strunk's treatment first. He states that the meaning 'camp' is only possible where the word stands in the accusative and forms the second element of the fourth dactyl. He proceeds from the other cases and tries to demonstrate that in all these cases the meaning is 'army'. Sometimes this demonstration fails to convince. I may give one example. He holds that there is an opposition στρατός 'common people': ἄριστοι, βασιλῆες; this may be right, but the application in the case of A 10 (and some others) is overstrained (p. 84f.): "A 9-11 wird die Strafe des Gottes ausdrücklich so gekennzeichnet, das für den Frevel des Agamemnons die gemeinen Krieger sterben müssen." This is a clear case of 'hineininterpretieren'. At least the meaning 'camp' is equally possible here. (Perhaps in these cases no choice is necessary: στρατός means 'the encamped army', just as, when we say "at school", *school* means both the building and the people working there.)

But this is not the main objection. He further considers that in the formula too the meaning 'army' prevails, and states (p. 87) "Eine Lösung ... kann in der relativen Häufigkeit der einen oder anderen Sinngebung im Rahmen der Formel gesucht werden." This again is not acceptable: such questions are not decided by numbers. Though he recognizes that formulae may contain old elements, he holds that here the meaning 'camp' was later introduced by 'Umdeutung' of the formula. This again is highly improbable, for στρατός was so well known in the meaning 'army', that 'Umdeutung' is most improbable.

Let me give the facts as I think they should be presented. In the *Iliad* — the five instances in the *Odyssey* may be neglected — the ciphers for the occurrences of the different cases are: sg. gen. 7, dat. 4, acc. 46, pl. nom. 1. Formulae should thus be looked for in the accusative; that the genitive will not contain anything old appears from the form, στρατοῦ, not -οῖο (a form that would not fit the dactylic hexameter!). Now there is virtually one formula only: after the trochaic caesura ∪ – στρατὸν εὐρὺν Ἀχαιῶν |, in which ∪ – is a preposition: κατὰ 4 ×, ἀνὰ 1 × (before the bucolic caesura 1 ×; with ὁρῶρει instead of Ἀχαιῶν 1 ×), μετὰ 1 ×, ἔσω 1 ×; without εὐρὺν Ἀχαιῶν we have between trochaic and bucolic caesurae κατὰ στρατὸν 17 ×, ἀνὰ στρατὸν 5 × (on other places 2 ×) and (after the penthemimeres) μετὰ δὲ στρατὸν 1 ×. All instances mentioned together form 34 out of the 46 accusatives. This to my mind is a clear instance of a formula with shortened and shifted variants (note Ψ 285 κατὰ σ. ὅστις Ἀχαιῶν). The original formula falls between trochaic caesura and verse-end. The most obvious conclusion is that this is an old formula, where the original meaning ‘camp’ has sometimes been retained. (That the formula was reinterpreted as ‘army’ is not strange, since this was the normal development of the word.) This is confirmed by εὐρύς (9 ×), which means ‘broad, extending broadly’, a mostly geographical term. Strunk’s reference to the ‘breite Masse’ suggests a meaning which is not a natural epithet for people in the Homeric language, and certainly not in an old formula.

The only old formula in which στρατός is used sometimes displays the meaning ‘camp’, a meaning confirmed by the use of the epithet εὐρύς (cf. στρατῷ εὐρέϊ Δ 76). The fact that in many cases one hesitates between the two meanings shows how natural this semantic development is; but that was already known from the three parallels. This meaning is incompatible with Strunk’s hypothesis, which must therefore be abandoned.

The etymology is then clear: *stṛtós means ‘spread out’; what is spread out is (a place or) things to lie (up)on, a sleeping-place, which is one of the natural meanings of στῶννυμι, cf. I 621 στορέσαι πυκινὸν λέχος.

(Remark. In Mycenaean we might expect from *stṛtos a form *στορτος. It should be remarked that this form cannot be used in our formula, and secondly that Cretan σαρτος might be the Doric form στρατός influenced by *στορτος from the Mycenaean substratum; but see on Cretan Buck, *Gr. Diall.* § 49. 2a and 70.1.)

Attention may be drawn to the fact that the Germanic languages sometimes have *ē*-forms beside *ā*- or *ō*-forms in the other languages. If these are a reality, we must decide from case to case whether this implies root variants or ablaut forms.

Strunk (p. 37) assumes for γινώσκω a root *ǵneh₃-, but points to (n. 43) Germ. *ǵnē-, e.g. OE *cnāwan*. This implies *ǵneh₁- beside *ǵneh₃- ‘to know’ and, identical with the first or not, *ǵneh₁- ‘to be born’. Now the different forms to my mind (see p. 166) suggest that *ǵnō- is an ablaut variant of *ǵneh₁-, that is *ǵnoh₁-.

When Oícel. *krās* ‘Leckerbissen’ points to *ǵ^urē- beside *ǵ^urō- in βιβρώσκω, one could consider βρω- as resulting from *ǵ^uroh₁-; that this root form was generalized (like *ǵnoh₁-) is, however, not confirmed by the cognate forms (Skt. *gīrṇā-*, *garat*, *gārīt*, *girāti*, *jagāra*, Lith. *girtas*, Arm. *eker*, Lat

vorare). Consequently a root variant $*g''erh_1-/g''reh_1-$ seems more probable here; cf. $*g''ieh_1-: g''ieh_3-$ 'to live' (p. 248 f.). (Ζέρεθρον could then represent $*g''erh_1-$, but βάραθρον would remain inexplicable.)

Lastly we may recall χάος etc. against OHG *gëwon*, which points to $*ghēu-$ (p. 178). Does this require root variants $*ghēh_1-/ghēh_3-$?

ADDENDA

ADDENDA

p. 35. (ἄρπυια.) Snell notes on Pi. *Paean* 6.136 that α is impossible, and that it must have been ε or σ vel sim., but S. L. Radt, *Pindars zweiter u. sechster Paian* (Amsterdam, 1958), p. 180f., remarks that he cannot find traces of ε. See for all the forms M. L. West, *Hesiod, Theogony*, p. 428 ad vs. 990. The problem cannot be solved as yet.

p. 51. ἄστράγαλος. It may be doubted whether the form στράγαλος, *Vita Aesop.* (G) 69 (LSJ Suppl.) is old; if it were, it would confirm that the word is non-IE.

p. 53. εἰκῆ. Delete ἔνεκα

p. 53. ἐύς. See the Add. on p. 65 (εὐρύς).

p. 54. ὀδάξ. From the point of view of the formulaic language it is also clear that the formula where ὀδάξ can only mean 'with the teeth' is the younger one. When we compare ὀδάξ ἔλον ἄσπετον οὐδας (T 61 Ω 738 χ 269), to which (ὁ δ' ἐν κονίῃσι) πεσὼν ἔλε γαῖαν ἀγοστῶ (Λ 425 N 508.520 Ξ 452 P 315) is the parallel for the third person singular, with ὀδάξ ἐν χεῖλεσι φόντες (α 381 = σ 410 = υ 268), the last formula is characterized as recent by the dative in -εσι (against the older form in -εσσι). The last formula recalls λὰξ ἐν στήθεσι βαίνων/βάς (N 618 Π 503/Z 65) with the same dative. Here the relation is very pronounced: 8 times στήθεσι against 128 cases of στήθεσσι.

p. 56. ἄεθλος. Compare now πενταφεθλεδὼν on a ἀλτήρ from the Isthmus, early sixth century BC. (LSJ Suppl. s.v. πενταθλέω).

p. 61. (εἵκοσι). The reconstruction ἦν πατρίδα γαῖαν seems confirmed by an analysis of the formulaic use of πατρίδα in the *Odyssey*.

A.

φίλην	ἐς	π. γ.		α 290 = β 221 ε 37.204 κ 562 λ 455 ξ 333 = τ 290	
				ο 65 σ 148 τ 258.298 ψ 340	(13×)
ἐήν	ἐς	π. γ.		ε 42 = ι 115 ι 533 υ 52	(4×)
σήν	ἐς	π. γ.		δ 476 = ζ 315 = ο 219 = ψ 259	
				η 77 = κ 474	(6×)

	ἐς	π. γ.		ξ 322 π 206 = τ 484 = φ 208 = ω 322 ψ 102 = 170	(7×)	} (20×)
ἰκόμην	ἐς	π. γ.		ι 279		
ἴκοιτ'	ἐς	π. γ.		ρ 539 = σ 384 ω 237	(3×)	
		π. γ.		κ 462 ν 197.219 σ 257 τ 116 ψ 120	(6×)	
(ἀφ)ικοίμεθα		π. γ.		κ 33.420 μ 345	(3×)	

B.

σὴν	π. γ.	ἴκοιο		γ 117	(1×)	} (9×)
„	„	ἴκηαι		δ 545 ε 168	(2×)	
ῆν	π. γ.	ἰκέσθαι		δ 558 = ε 15 = ρ 144	(3×)	
„	„	ἴκηται		ε 26 = 144 η 193	(3×)	
πρίν	π. γ.	ἰκέσθαι		δ 823 = ν 426 = ο 30 ε 207.301	(5×)	

It occurs 57 times combined with γαῖαν, and this combination is found either at the end of the verse (A, 43×) or followed by a form of ἰκέσθαι (ν - υ), which is final (B, 14×). The second group (B) is preceded by a possessive (σὴν, ῆν; 9×) or πρίν (5×). The first group (A) is in more than half of the cases preceded either by φίλην ἐς (13×) or a possessive + ἐς (σὴν, ἐήν; 10×). Of the remaining twenty cases we find πατρίδα γαῖαν without ἐς (9×) either by itself (6×) or preceded by a form of ἰκέσθαι (3×); the other cases (11×) have ἐς πατρίδα γαῖαν, four times preceded by a form of ἰκέσθαι. Of the seven cases where ἐς πατρίδα γαῖαν stands by itself, six are in the two formulae discussed on p. 61, the only other instance being ξ 322. The conclusion is that πατρίδα γαῖαν almost always has an adjunct, mostly a possessive; in the second group (B) this is even clearer. The second group also demonstrates that ἐς is not necessary with ἰκέσθαι, and the construction without the preposition will be the older one. Now I think this situation makes it probable that ἐς has replaced a possessive. It is important to note that σὴν ἐς πατρίδα γαῖαν does not coincide with a caesura: it is a recent variant for a second person; the replacement of a third person formula by one for the second person is also clear in the second group (B). In the formula for the third person with ἐς, it was possible to fit it into a caesura by using the form ἐήν instead of ῆν. One might wonder why for the second person τεήν was not used; probably the form was too unusual for the singers who made the change (cf. Chantraine, *Gr. Hom.*, p. 271).

The double consonant of ῆν may also be concealed in the formula δ 558 = ε 15 = ρ 144: ἴσχει. ὁ δ' οὐ δύναται ῆν πατρίδα γαῖαν ἰκέσθαι, if we assume that the verse originally occurred in narrative with the form δύνατο ῥήν. For the more recent present for an older imperfect cf. ἀνακήκιε(ν), App. II, p. 277, and ἦσαν supposed in the Add. on p. 108 f. (ἴσχε would not fit the metre; ν-movable is improbable. The verse may originally have run:

*αὐτὰρ ὁ γ' οὐ δύνατο ῥήν πατρίδα γαῖαν ἰκέσθαι.)

p. 64. (ἔλπομαι). M 407 has θυμὸς ἐέλπετο. In this form (also in N 8.609 ψ 345) the ἐ- may of course be the augment (Chantraine, *Gr. Hom.*, p. 480). Then N 813 θυμὸς ἐέλπεται may be θυμὸς ἐέλπετο transformed into a present. (It would be an instance of 'verschlepptes Augment', but this only artificial, to be well distinguished from that of the living language, Schwyzler, p. 656 d.)

p. 65. εὐρύς. Though they constitute desperate problems, I may add a few remarks on εὐρύς and ἐύς, the more so as I disagree with regard to the last with one of the latest reviewers, R. Schmitt (*Dichtung*, notes 511, 530, 728, 739, 743, 863, 865, 867).

εὐρύς. I think εὐρύς simply represents **eur-u-s*, as against Skt. *urú-*, Av. *vouru-*, which continue **μ_eru-*. Ablaut of this kind, presenting a vowel either before or after the first consonant of the root, is also found in **μ_es-u-* (see s.v. ἐύς below) against **eus-* in Goth. *iusiza* 'better'. With both times a reduced vocalism we find this alternation in ταῦς : σαός, if our reconstruction of **t_eμ_h₂-u-* : **t_uμ_h₂-u-* (p. 249) is correct. With nouns we found this kind of ablaut in the word for 'name': **en_h₃-/n_eh₃-*; cf. also p. 44 s.v. ὀμφαλός. Full grade *e* with *u*-stems is, except in **μ_esu-*, also found in κενός etc. Since the root cannot be established exactly, this form might in itself be explained from **k_hh₁-u-* (> **κενυ-*), but Arm. *sin* 'id.' proves full grade *e* (probably **k_{en}-u-*). (For ἡδύς, beside **s_ueh₂d-u-*, a reduced grade **s_uμ_h₂d-u-* is also possible. The form ἐτέός ἐτυ- may represent **etu-*, **h₁etu-*, **h₁_etu-* or **h₁tu-*.)

If a laryngeal should be assumed — for which there is no positive evidence —, beside **h₁euru-* a form **h₁_euru* is possible, and, as I now hold, **h₁_uru-*; I am no longer of the opinion that the /u/ should necessarily have been vocalic in this sequence. A form **(h)μ_uru-* is found in Av. *urv-āp-*, though this is in composition.

We are thus left here too with four possibilities: **eur-*, **h₁eur-*, **h₁_eur-*, **h₁_uru-*. (It is possible that the second and third form both occurred in the flexion, and that the last was found in composition. But in composition an original **μ_uru-* may have been replaced by εὐρυ- by influence of the adjective, as was **su-* by ἐν-.)

ἐύς. The fact that the compounds with ἐν- in Homer have no trace of F-, and the fact that these compounds have *e-u-* in Mycenaean (Chadw.-Baumb. s.v. ἐύς) show clearly that the Greek word did not have the *μ-* found in Skt. *vásu-* etc.

The interchange ἐ-/ῆ- has been explained as metrical lengthening, for instance by Frisk; Leumann, *Hom. W.*, p. 317 n. 107, holds that it originated in compounds. Against this must be argued first that from recent lengthening one would expect εῖν- (but non-Ionic lengthening might indeed be found in ὠλεσίκαρπος; this seems better than Strunk's view, *Nasalpr.*, p. 120, that ω represents the original length of the *s*-aorist). Secondly there are in Homer only two such compounds.

That these forms are old is clear. We have four instances of ἡυγένειος: λῖς ῆ. | O 275 P 109 Σ 318, λέων ~ ῆ. | δ 456 (λῖς further only Λ 239, at the same place in the verse, preceded by ὥστε as in P and Σ, but followed by ἐκ δ' ἄρα χειρὸς: evidently a remnant of the formula; λῖν Λ 480, the same book).

Ἡύκομος occurs *Il.* 3 ×, *Od.* 1 ×, -οιο *Il.* 15 ×, *Od.* 2 ×. A frequent formula is (δῖος) Ἀλέξανδρος, Ἑλένης πόσις ἠυκόμοιο, Γ 329 H 355 Θ 82 Λ 369.505 N 766 (a variant is Ἑλένης ἔνεκ' ἠυκόμοιο I 339). Θέτιδος πάις ἦ. (Δ 512 Π 860) may be recent, since Thetis' usual epithet is ἀργυρόπεζα, which might have been used here too. Ἀθηναίης ἐπὶ γούνασιν ἦ. (Z 92. 273. 303) is not necessarily a formula, but may be only a 'repeated line' (see J. B. Hainsworth, *The Flexibility of the Homeric Formula*, 1968, p. 41); moreover, it is too flat a description for Athena. Further, it is used of Briseis (B 689), Hera (πόσις Ἥρης ἦ. K 5; the occurrence with πόσις suggests that it has been taken from the formula with Helen and this confirms that *that* is the old formula; for Hera too it is too flat; note that it is in K), μητέρος (Ω 466, the only instance without a name, though Thetis is meant; note Ω) and Calypso (Θ 452 μ 389). In the nominative we have (τ)ὸν ἦ. τέκε Λητώ | (A 36 T 413 λ 318) which may be old, and Ω 602 of Niobe (note Ω again). The conclusion seems that the oldest formula is that with Helen. That this (the whole line) is very ancient is demonstrated by the fact that the aspiration of Ἑλένη makes position; that this is an old feature, I hope to demonstrate elsewhere. (Note the excellent rhythm of the line, all word-ends falling on 'caesurae'.) The conclusion is that ἠύκομος belongs to the oldest elements of the epic tradition.

The forms of ἦύς are a remnant as well as the compounds with ἦυ-. Ἡύς occurs only in ἦύς τε μέγας τε (6 ×) and ἦύς θεράπων (before the penthemimeres, 2 ×); ἦύν in ἦύν τε μέγαν τε (3 ×) and once otherwise (Z 191); ἦύ only in μένος ἦύ | (6 ×). This conveys the impression that the form with ἦ- was retained only in the formula with μέγας (after the hephthemimeres; for the formula type cf. φέργον τε φέπος τε, π(τ)όλεμόν τε μάχην τε), and perhaps with θεράπων (cf. θεράπων εὐς 4 ×) and μένος.

Now it is not impossible that we have here a very old metrical lengthening, which was (from the compounds) secondarily introduced in an adjective that itself disappeared from the living language. But all together it is to my mind far more probable that the ἦ- is an old form of the living language (introduced in compounds, as was the ἐ- of εὐς; see below), preserved in a few old formulae. This seems confirmed by ἦέα: ἀγαθά Hsch., if it is not a recent epic form.

That εὐ- had a laryngeal is not certain. It is frequently connected with the root of 'to be' as **h₁s-u-*. But firstly this connection is not certain, and secondly it is not certain that the root of 'to be' had a laryngeal (see p. 91). In fact ὑγιής could be more easily explained by **su-* than **h₁su-*. I do not understand what Schmitt (n. 530) means when he says: "oder erklärt sich die griechische Kompositalfom ὑ- gar als Reflex des anlautenden *a₁*- ??". The form εὐ- in compounds must then be ascribed to influence of the adjective, as must ἦυ-. That ὑγιής escaped transformation to εὐ- was due to the fact that the composition was, at an early date, no longer clear.

The supposed genitive ἐῆος (ἐῆος) is too doubtful to be used as a basis for conclusions. The same applies to ἐάων.¹

¹ Schmitt, *o.c.*, p. 144 f., rightly regards δωτῆρες in Θ 325 δωτῆρες ἐάων as a hybrid form (as does

Now ἥϋς beside ἐϋς together with Hitt. *aššuš* supposes three ablaut forms; for this phenomenon cf. p. 195 s.v. κάλαμος. I can imagine this most easily as **ēš-u-s* **ēs-u-m* **eš-éu-s*. For the full and reduced grade of the root I refer to the discussion of εὐρύς above. The lengthened grade is less known, but I think we have decisive evidence that it did occur for the word **mesu-*. In Celtic we find Ir. *fiu*, W. *gwiw* 'worthy', Bret. *gwiou* 'merry' and Gaul. *Uisu-rix*, *Bello-uesus*, *Sego-uesus*, which all have **mēs-*; WP I 310; Pok. 1174; Lewis-Pedersen, p. 18 (not changed in the 1961 supplement). The assumption of a form **ēs-u-* as a basis for ἥϋς therefore seems allowed.²

p. 66. (ἴσος). A verse-end νηὸς ρίσης was clearly avoided. When the fifth metron was followed by word-end, it is very often a dactyl, very seldom a spondee. K. Meister, *Die Homerische Kunstsprache*, p. 7, lists only ten instances, half of which are probably due to recent contraction (e.g. ἡῶ διαν < **ἡόα διαν*). Even more important is that in these cases the tenth element is always long by nature, not — as in νηὸς ρίσης — by position. The only conclusion I can draw from these facts is that an ending like νηὸς ρίσης, which must be old, was allowed in earlier epic but avoided later, and that in this particular case the metrical anomaly was removed even at the cost of a non-existent form (ἔισης) in order to keep the formula. If this view is correct, then we have in this old formula a trace of an old metrical licence that later disappeared wholly. Cf. the Add. to p. 108 f.

p. 87 f. Important would be the form *eluzanem* 'to make come up [of plants]', if it belongs with ἐλεύσομαι ἐλεύθερος, which is a good possibility; see Solta, *Stellung d. Armen.*, p. 244. This would seem to confirm the view that the original colour of the laryngeal was retained. However, in the middle of the word there is no evidence for this, cf. *alawri* 'mill' < **alatrio-*, cf. Gr. ἀλετριον-, which is derived from the root **h₂elh₁-*.

p. 108 f. νηλίτιδες. For νηλείτης (Antim.) and νηλεῖτις see now LSJ Suppl. The forms given there support the interpretation given in the text.

The form (νηλεῖτ)-έες is the more probable, since the fifth metron when followed by word-end is very often a dactyl, very seldom a spondee; according to K. Meister, *Die Homerische Kunstsprache* p. 7, there are only ten instances of which five can be resolved. Cf. the Add. to p. 66. (In the archaic formula so reconstructed the form εἶσι is surprising; it might replace ἦσαν.)

Chantraine, *Dict. Etym.*, s.v. δίδωμι A 2). It must be a transformation of δοτῆρες after δῶτορ (ἐάων 9 335), which form fits in after the bucolic caesura. It is then also clear why δοτῆρες was not used: it would have violated Hermann's law.

² Dr. C. J. Ruijgh, who was so kind as to give me his view on the problem by letter, is also of the opinion that the ἥ- is old. He thinks, however, that it originated in a neuter, comparing ἦπαρ < **iēk^hr* (and γωνία, if it were cognate with γόνυ as **gōny-*). I doubt whether we have evidence for lengthened grade in the neuter of adjectives.

p. 168. A clear instance of $oh_2 > \bar{o}$ (ω) is $\pi\acute{\eta}\sigma\sigma\omega$ $\pi\acute{\omega}\sigma\sigma\omega$. The root has in Greek the forms $\pi\tau\eta\kappa-$ < $\pi\tau\acute{\alpha}\kappa$ -(Dor.)/ $\pi\tau\omega\kappa$ -/ $\pi\tau\acute{\alpha}\kappa$ -. A cognate is probably found in Arm. $t'ak'-cim$ 'to conceal oneself'. If it is assumed that \bar{a} comes from PIE eh_2 , ω must have arisen from oh_2 . Analogy being virtually excluded, the only alternative is to assume \bar{a}/\bar{o} as such for the proto-language. At present, however, a phoneme \bar{a} can only be taken into consideration if a laryngeal is impossible.

As for $\beta\omega\mu\acute{o}\varsigma$, see for the semantic side Chantraine, *Dict. Etym.*, s.v.; as this etymology seems indisputable, this word alone suffices to prove the development $oh_2 > \omega$ (which Chantraine does not accept). (The line of development of the meaning of this word must have been something like this: 1. step, pace > 2. step up > 3. step (of a staircase) > 4. raised place, platform (, tribune) > 5. base, pedestal > 6. altar. For $\beta\omega\mu\acute{o}\varsigma$ we find beside 6. only the meanings (4 and) 5 in Homer (see Chantraine, *l.c.*), but there is — beside OP $g\bar{a}u-$ (see Frisk s.v. $\beta\omega\mu\acute{o}\varsigma$) — a parallel that shows the meanings 1, 4, 5 and 6: $\beta\eta\mu\alpha$; even in modern Greek this word has both the meanings 1 and 6. Another form of the root $\beta\bar{a}-$ shows a similar development: $\beta\acute{\alpha}\varsigma\iota\varsigma$.)

p. 178. $\kappa\alpha\upsilon\lambda\acute{o}\varsigma$: $\alpha\delta\lambda\acute{o}\varsigma$, $\kappa\acute{\mu}\epsilon\lambda\epsilon\theta\rho\upsilon\varsigma$: $\mu\acute{\epsilon}\lambda\alpha\theta\rho\upsilon\varsigma$ and perhaps $\gamma\lambda\alpha\upsilon\kappa\eta$ $\phi\omicron\beta\epsilon\rho\acute{\alpha}$ Hsch.: $\lambda\alpha\upsilon\kappa\eta$... $\phi\omicron\beta\epsilon\rho\acute{\alpha}$... Hsch. could be added to the instances given by Kuiper, *Mνήμης χάριν*, p. 213 n. 9. As regards $\kappa\acute{o}\gamma\chi\upsilon\alpha\iota$: $\delta\gamma\chi\upsilon\alpha\iota$ reference may also be made to the variant $\delta\chi\upsilon\eta$ (see LSJ). Although incidental explanations are not inconceivable here ($\kappa\acute{o}\gamma\chi\upsilon\eta$ "perhaps from false division, cf. $\omicron\upsilon\kappa$ $\delta\gamma\chi\upsilon\eta$ Od. 24.247" LSJ Suppl.; $\delta\chi\upsilon\eta$ by dissimilation from $\delta\gamma\chi\upsilon\eta$, Frisk), it seems more probable that both phenomena point to a substratum word. These words are then important insofar as they demonstrate that the interchange k /zero and the prenasalization (p. 12) belong to the same linguistic stratum. At the same time the connection of $(\kappa)\alpha\upsilon\lambda\acute{o}\varsigma$ with the Lithuanian words may be of far-reaching importance to the interpretation of the substratum. Finally, reference may also be made to the roots $*psam-$: $sam-$, $sab(h)-$ in $\psi\acute{\alpha}\mu\alpha\theta\omicron\varsigma$ etc. (cf. p. 189 f.), where the interchange p /zero may be a parallel of the k /zero discussed here.

I might add $\kappa\omicron\nu\acute{\iota}\varsigma$: Arm. *anic* 'egg of lice'. Frisk tries to account for the different forms found in other IE languages by "volksetymologische, euphemistische, tabuisierende Veränderungen und Verdrehungen" and proposes for *anic* $*synid-s$. Solta, *Stellung d. Armen.*, p. 122, holds that Armenian by its prothesis stands entirely alone. To my mind here again Greek and Armenian are most close to one another, if we accept the interchange k /zero. (For non-IE elements common to both Armenian and Greek see Solta, *l.c.*, pp. 119 n. 3, 405, 430, 463 n.; cf. also p. 194 of this book, on $\gamma\acute{\epsilon}\phi\upsilon\rho\alpha$.)

p. 194. On the pre-Hellenic labio-velars see now Kuiper, *Lingua* 21 (1968) 269-77 (on $\theta\acute{\alpha}\lambda\pi\omega$: $\theta\alpha\lambda\upsilon\sigma\sigma\acute{o}\mu\epsilon\nu\omicron\varsigma$ $\theta\alpha\lambda\upsilon\kappa\rho\acute{o}\varsigma$ and $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\varsigma$).

p. 198. See addendum to p. 202.

p. 202. Myc. *demeote* PY An 35 ('*demeontes*') 'those who will build' points for δέμω to a root *demh₁-*/*dme_h1-*. See Chantraine, *Morphologie*², p. 249, who comments that classical Greek has no future of this verb and that "les formes en *ā* d'écrivains doriens ne doivent rien représenter d'ancien". In Pindar there are variants with *η* for θεόδμητος. (This is dealt with in the greatest detail by C. J. T. Mommsen, *Annotationis criticae suppl. ad Pind. Ol.*, Berlin 1864, ad *O.* 3.7: "Est cur praeferas θεόδητον, cum a δέμω formatum esse videatur. Ut hic Moschopulus, ita *O.* VI, 59 Triclinius *η* scripsit. *P.* I, 61 duo codd. *η* praestant, sed *P.* IX, 10. *I.V.*, 10 omnes in *ā* consentiunt ... Hoc loco Vaticanus *η*; is etiam vs. 1.4.12.13 formam melius servavit quam Ambrosianus". Snell does not give the variants, and Bowra gives them only for *O.* 3.7 (mss. BC). Of the two times that the word occurs in the fragments, 78-79.1 Bo. = 33 c 1 Sn. give -δηῖτα M, corr. Boeckh; for 167 Bo. = 35 c Sn. only Rumpel (*Lexic.*) gives *ā* Bergk, vulg. *η*. Forssman, *Unters.*, who specially examined *ā/η* in Pindar, calls (p. 160 n. 4) *Fr.* 33 c 1 Sn. a case of "un-doric *η*", but does not discuss the other cases.)

If this is correct, then δέμας probably replaced *δεμας < **demh₁-s*.

As regards κτέρας, it may be added that the forms with *ε* are very old. In Homer one finds the verb κτερεῖζω, which must have been derived from the *ε*-forms of κτέρας. This verb occurs in the formula [σῆμά τέ οἱ χεῦαι (χεύω)] καὶ ἐπὶ κτέρεα κτερεῖζαι (-ξω). The fact that this is an old formula is evident from the transformations with the more recent forms κτερίσαιεν Ω 38 and κτερίσειεν γ 285, and from the guttural declension. Ruijgh, *L'élém. ach.*, p. 83, and Hoekstra, *Modifications*, p. 143 (and p. 142 n. 1) are therefore both of the opinion that the formula is of Mycenaean origin.

One may therefore still expect the old nominative ending in *-es* (-ες) in Myc. An all the stranger form is *kowo*. It may be interpreted as 'kōwōs' (**kōwh₁-ōs*, cf. γέλως < **gelh₂-ōs*) or 'kōwos' (**kōwh₁-os*).

On the strength of the above I would now be inclined to be somewhat less sceptical vis-à-vis the hypothesis given on p. 202.

p. 218. If the glosses τέτορεν· ἔτρωσεν and τετόρη· τρώση Hsch. are reliable, they possibly provide a further instance of *rh₃V* > *opV*. The explanation found in Hesychius suggests that the forms are aorists. They must then be reduplicated thematic aorists of the type τέ-τμ-ον πέ-φν-ον. The *o*-vocalism can be explained if the root is the same as that of ἔτρωσα, i.e. **terh₃-*, because we would expect a basic form **te-*trh₃-e** > τέτορε. It may further be noted that the absence of augment probably indicates that the word is taken from epic poetry, so that the form may well be ancient.

p. 220. The stem γνῆ- is also found in ἱγνητες 'αὐθιγενεῖς', from **ēn-γνῆ-τ-*; cf. ἑτερόγνῆτ- 'ἑτερογενής' Hdn. Gr. 1.83 (ἑτερογνής Schwyzer, p. 451). The form ἱγνητες is apparently old: its translation in "modern" (classical) Greek, its meaning ("the *original* inhabitants", e.g. of Rhodes); *ι(v)* < *en* Arc.-Cypr. For the com-

pound compare the Homeric formula τοὶ Ἰλίου ἐγγεγάασι (Z 493 P 145). For the zero grade compare ἀδμητ- < **h₂-dm̥h₂-t-* (Av. *ašbaret-* < **bhr̥-t-*).

p. 222. (τέμενος) That the word was derived from τέμνω is confirmed by the use of ἀποτέμνω Hdt. (LSJ s.v. II 2) and ἀπότομος Locr. V B.C. (idd. Suppl. s.v.) in the sense of 'to cut off land (for private use)'.

p. 223. However, *o* for *α* in the neighbourhood of *ρ λ μ ν* seems to rest on a general tendency in Aeolic (Thumb-Scherer, *Gr. Dial.*, II p. 87f.). It can hardly in all cases result from the development of a PIE sonant; cf. ψόμμος, δόμορτις, γνώφαλλον, κόθαρος.

p. 230. Of importance for ὄνομα is H. Rix' article, *MSS* 18 (1965) 79-92, in which he convincingly argues that the *o* of the root in the Latin gen. *iocineris* is old and was not introduced from the nominative, of which the oldest form is *iecur*, not *iocur*. I am not convinced that the details of Rix' reconstructions (which he gives with due reservation) are right, but the important fact remains that we have here *o* beside *e* in the root of a neuter noun, which, as **en̥h₃-m̥h₂*, has zero grade of the suffix in the nominative. The *o*-grade is also found in οὔθαρ (< **(h₁)ou(h)dh₂r̥*).

p. 252. (*pr̥h₂t̥i*) Puhwel, *Laryngeals and the IE Verb*, p. 39f., points out that Arm. *lnum* and OIr. *do-lin* seem to confirm that the root **pleh₁-* had an old nasal present.

INDICES

I. MODERN AUTHORS

Only the more important places are given

- Adrados 29f
Austin 22, 78, 80f, 86, 94, 107
Benveniste 89f, 130, 152, 186, 202
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II. SUBJECTS

Only the more important places are given

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III. LANGUAGES OTHER THAN GREEK

Only the more important places are given

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C. Armenian	p. 299	J. Phrygian	p. 307
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F. Germanic	p. 301	1. Other IE languages	p. 308
G. Indian	p. 302	2. Non-IE languages	p. 308

The languages are grouped into families and these are arranged in alphabetical order.¹

For all languages the same alphabetical order has been adopted, that of the Latin alphabet.²

For the alphabetical arrangement not only the accents but all diacritical signs are neglected³ (only where words differ in nothing but diacritical signs they are arranged in order of the complexity of these signs⁴).

¹ Sometimes these families are arranged geographically or according to the numbers of words listed. The first must necessarily be approximative, the second will vary from book to book.

² Indices and alphabetical order exist for the sake of convenience. The use of these lists is, however, hampered by the fact that several languages have rules of their own. As with the exception of Greek all languages are transliterated into the Latin alphabet, it is evident to follow the order of that alphabet. As most spellings are neither phonetically nor phonemically satisfactory and as the order of the Latin alphabet is not based on any logical arrangement of sounds but is only a matter of convention, there is no reason to make exceptions based on whatever principle. The advantages of uniformity will be evident, I think, and it can be easily obtained. It was for that same reason that the original scripts were transliterated into the Latin alphabet. This advantage should not be undone partially. Conflict with the tradition then is unavoidable, but it is hoped that the advantages in the ease of consultation will outweigh this draw-back. For Armenian the order of the Latin alphabet is now generally adopted.

³ Accents are generally neglected, as is the macron. As accents are sometimes identical with diacritical signs (e.g. *ř, ñ*), it appeared desirable to neglect them, the more so as in this book the following varieties of *e* are found, that would all have to be grouped separately: *e, e, é, ê, ë, ě, ě*. It would be creating a new inconsistency if only *consonants* with these signs were treated independently.

⁴ Though one might dispute the details, I propose the order of signs as on the following letters:

ü ü ħ ū ŧ ē ç a₂ d l é û ë ě ě é â k' ä ċ

It may be pointed out that this order is not very important as the words concerned are now listed one after the other, so that the different forms can be seen at the first glance; when the signs are not in the first instance neglected, otherwise identical forms could appear at quite different places in the lists.

Two letters representing a single sound are nevertheless treated as two letters: $ch = c + h$, $x = a + e$, etc.⁵

Compounds are always classified according to the letters of the first element.⁶

Letters not taken from the Latin alphabet are inserted after the Latin letter with which they are associated most closely:⁷

$a, b, c, d, \delta, e, \vartheta, f, g, h, hv, i, \upsilon, j, k, \chi, l,$
 $m, n, o, p, q, r, s, t, \phi, \vartheta, u, \upsilon, v, w, x, y, z.$

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B. ANATOLIAN

*Hittite not labeled*⁸

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aššuš 53, 289	ḫanza 45	ḫawa- 130
daluga- 238	ḫappinant- 51	ḫawi- Luw. 130
edmi 91	ḫapzi 51	ḫi-iš-ḫi-ja-an-ti Luw. 97
e-eš-zi 91	ḫaraš- 130	ḫunteš 267
e-it-mi 55	ḫar-aš-zi 129	ḫuiš- 129
epmi 111	ḫark- 34	ḫu-i-iš-zi 57, 93f, 273
genu 168	ḫarkiš 34, 127, 267	ḫuitjazi 56, 93
-ḫa 133	ḫarpzi 131	ḫullai- 236

⁵ See note 2.

⁶ It would be in conflict with the principles stated specially in note 2 to classify compounds otherwise than according to the first letters.

⁷ The arrangement followed here is founded on the basic form of the letters, while diacritical signs are neglected. It is clear, however, that e.g. ϑ is a separate symbol; and as ϑ is an inverted e , it is only natural to put it after e (as is done in Armenian words). Similar considerations apply for the other symbols.

⁸ In accordance with the principles stated above (p. 296) g and q have not been put together with k ; the same applies to b, p and d, t . The same treatment is found in Schwyzler's *Register*. Thus j is found under i . Spellings like $e-eš-zi$ are treated as $eeszi$, not according to their probable pronunciation ($eszi$).

Though this has not been realized in the text, I am of the opinion that the signs $h i u š$ in Hittite words should always be written $h y w s$.

B. Anatolian

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